

# Sequence Listing

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 Grimaldi, J. Christopher  
 Gurney, Austin L.  
 Kljavin, Ivar J.  
 Napier, Mary A.  
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 Paoni, Nicholas F.  
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 atatgataaa ataggtgggg agagtctgaa ccttaactgt catgttttgt 2550  
 tgttcatctg tggccacaat aaagtttact tgtaaaattt tagaggccat 2600  
 tactccaatt atgttgacg tacactcatt gtacaggcgt ggagactcat 2650  
 tgtatgtata agaattttt tgacagttag tgaccggag tctctgggtg 2700  
 accctcttac cagtcagctg cctgcgagca gtcatttttt cctaaaggtt 2750  
 tacaagtatt tagaactttt cagttcaggg caaaatgttc atgaagtatt 2800  
 tcctcttaaa catggttagg aagctgatga cgttattgat ttgtctgga 2850  
 ttatgtttct ggaataattt taccaaaaca agctatttga gttttgactt 2900  
 gacaaggcaa aacatgacag tggattctct ttacaaatgg aaaaaaaaaa 2950  
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 tggtaaaaat tgtaaatata aatgtgcaac ttg 3033

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 <211> 251  
 <212> PRT  
 <213> Homo sapiens

<400> 6  
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 1 5 10 15  
 Arg Tyr Trp Phe Ala Ala Thr Val Ala Val Pro Leu Val Gly Lys  
 20 25 30  
 Leu Gly Leu Ile Ser Pro Ala Tyr Leu Phe Leu Trp Pro Glu Ala  
 35 40 45  
 Phe Leu Tyr Arg Phe Gln Ile Trp Arg Pro Ile Thr Ala Thr Phe  
 50 55 60  
 Tyr Phe Pro Val Gly Pro Gly Thr Gly Phe Leu Tyr Leu Val Asn  
 65 70 75  
 Leu Tyr Phe Leu Tyr Gln Tyr Ser Thr Arg Leu Glu Thr Gly Ala  
 80 85 90  
 Phe Asp Gly Arg Pro Ala Asp Tyr Leu Phe Met Leu Leu Phe Asn  
 95 100 105

Trp	Ile	Cys	Ile	Val	Ile	Thr	Gly	Leu	Ala	Met	Asp	Met	Gln	Leu
				110					115					120
Leu	Met	Ile	Pro	Leu	Ile	Met	Ser	Val	Leu	Tyr	Val	Trp	Ala	Gln
				125					130					135
Leu	Asn	Arg	Asp	Met	Ile	Val	Ser	Phe	Trp	Phe	Gly	Thr	Arg	Phe
				140					145					150
Lys	Ala	Cys	Tyr	Leu	Pro	Trp	Val	Ile	Leu	Gly	Phe	Asn	Tyr	Ile
				155					160					165
Ile	Gly	Gly	Ser	Val	Ile	Asn	Glu	Leu	Ile	Gly	Asn	Leu	Val	Gly
				170					175					180
His	Leu	Tyr	Phe	Phe	Leu	Met	Phe	Arg	Tyr	Pro	Met	Asp	Leu	Gly
				185					190					195
Gly	Arg	Asn	Phe	Leu	Ser	Thr	Pro	Gln	Phe	Leu	Tyr	Arg	Trp	Leu
				200					205					210
Pro	Ser	Arg	Arg	Gly	Gly	Val	Ser	Gly	Phe	Gly	Val	Pro	Pro	Ala
				215					220					225
Ser	Met	Arg	Arg	Ala	Ala	Asp	Gln	Asn	Gly	Gly	Gly	Gly	Arg	His
				230					235					240
Asn	Trp	Gly	Gln	Gly	Phe	Arg	Leu	Gly	Asp	Gln				
				245					250					

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 <211> 1373  
 <212> DNA  
 <213> Homo sapiens

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 ctcttccctt actccctctc ggctccttgt ggcccaaagg cctaaccggg 150  
 gtccggcggt ctggcctagg gatcttcccc gttgccctt tggggcggga 200  
 tggctgcgga agaagaagac gaggtggagt gggtagtga gagcatcgcg 250  
 gggttcctcg gaggccaga ctggtccatc cccatcttgg actttgtgga 300  
 acagaaatgt gaagttaact gcaaaggagg gcatgtgata actccaggaa 350  
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 aagatcaatt tcaagaagca tgcactttct ctcttgcaaa gccaccataca 550  
 tcacaggcca ttttgcaacc tgtgttgga gcagaagatt ttactatctt 600  
 taaagcaatg atggtccaga aaaacattga aatgcagctg caagccattc 650  
 gaataattca agagagaaat ggtgtattac ctgactgctt aaccgatggc 700

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 agtgaagctg caataatgaa taattcccaa ggggatgggtg aacattttgc 900  
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 ctttggggaag aaaagtggaa aggtctgaaa cttctccctt cccacaaaaa 1000  
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 tcaagcagaa gagagataag ttgatgtcca tgagaaagga tatgaggact 1150  
 aaacagatac aaaatatgga gcagaaagga aaacccactg gggaggtaga 1200  
 ggaaatgaca gagaaccag aaatgacagc agaggagaag caaacattac 1250  
 taaagaggag attgcttgca gagaactca aagaagaagt tattaataag 1300  
 taataattaa gaacaattta acaaatgga agttcaaatt gtcttaaaaa 1350  
 taaattattt agtccttaca ctg 1373

<210> 8  
 <211> 367  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
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 20 25 30  
 Asp Phe Val Glu Gln Lys Cys Glu Val Asn Cys Lys Gly Gly His  
 35 40 45  
 Val Ile Thr Pro Gly Ser Pro Glu Pro Val Ile Leu Val Ala Cys  
 50 55 60  
 Val Pro Leu Val Phe Asp Asp Glu Glu Glu Ser Lys Leu Thr Tyr  
 65 70 75  
 Thr Glu Ile His Gln Glu Tyr Lys Glu Leu Val Glu Lys Leu Leu  
 80 85 90  
 Glu Gly Tyr Leu Lys Glu Ile Gly Ile Asn Glu Asp Gln Phe Gln  
 95 100 105  
 Glu Ala Cys Thr Ser Pro Leu Ala Lys Thr His Thr Ser Gln Ala  
 110 115 120  
 Ile Leu Gln Pro Val Leu Ala Ala Glu Asp Phe Thr Ile Phe Lys  
 125 130 135  
 Ala Met Met Val Gln Lys Asn Ile Glu Met Gln Leu Gln Ala Ile  
 140 145 150

Arg Ile Ile Gln Glu Arg Asn Gly Val Leu Pro Asp Cys Leu Thr  
 155 160  
 Asp Gly Ser Asp Val Val Ser Asp Leu Glu His Glu Glu Met Lys  
 170 175 180  
 Ile Leu Arg Glu Val Leu Arg Lys Ser Lys Glu Glu Tyr Asp Gln  
 185 190 195  
 Glu Glu Glu Arg Lys Arg Lys Lys Gln Leu Ser Glu Ala Lys Thr  
 200 205 210  
 Glu Glu Pro Thr Val His Ser Ser Glu Ala Ala Ile Met Asn Asn  
 215 220 225  
 Ser Gln Gly Asp Gly Glu His Phe Ala His Pro Pro Ser Glu Val  
 230 235 240  
 Lys Met His Phe Ala Asn Gln Ser Ile Glu Pro Leu Gly Arg Lys  
 245 250 255  
 Val Glu Arg Ser Glu Thr Ser Ser Leu Pro Gln Lys Gly Leu Lys  
 260 265 270  
 Ile Pro Gly Leu Glu His Ala Ser Ile Glu Gly Pro Ile Ala Asn  
 275 280 285  
 Leu Ser Val Leu Gly Thr Glu Glu Leu Arg Gln Arg Glu His Tyr  
 290 295 300  
 Leu Lys Gln Lys Arg Asp Lys Leu Met Ser Met Arg Lys Asp Met  
 305 310 315  
 Arg Thr Lys Gln Ile Gln Asn Met Glu Gln Lys Gly Lys Pro Thr  
 320 325 330  
 Gly Glu Val Glu Glu Met Thr Glu Lys Pro Glu Met Thr Ala Glu  
 335 340 345  
 Glu Lys Gln Thr Leu Leu Lys Arg Arg Leu Leu Ala Glu Lys Leu  
 350 355 360  
 Lys Glu Glu Val Ile Asn Lys  
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<210> 9  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

<400> 9  
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 ctatacagag attcatcagc aatacaaaaga actagttgaa aagctgttag 100  
 aaggttacct caaagaaatt ggaattaatg aagatcaatt tcaagaagca 150  
 tgcactttct ctcttgcaaa gaccataca tcacaggcca tttttgcaac 200  
 ctgtgttggc agcagaagat ttactatct ttaaagcaat gatggtccag 250  
 aaaaacattg aaatgcagct gcaagccatt cgaataattc aagagagaaa 300

tggtgtatta cctgactgct taaccgatgg ctctgatgtg gtcagtgacc 350  
 ttgaacacga agagatgaaa atcctgaggg aagttcttag aaaatcaaaa 400  
 gaggaatatg accaggaa 418

<210> 10  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 10  
 ttgacctata cagagattca tc 22

<210> 11  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 11  
 ctaagaactt cctcaggat ttt 23

<210> 12  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 12  
 atgaagatca atttcaagaa gcatgcactt ctctctttgc 40

<210> 13  
 <211> 2886  
 <212> DNA  
 <213> Homo sapiens

<400> 13  
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 tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 150  
 cactagaagc tcttctgagg gaggttaatta aaaaacagtg gaatggaaaa 200  
 acagtgctgt agtcacccg taatatgctc cttgtcaaca atgtatacat 250  
 tctgtctagg tgccatattc attgctttta gctcaagtcg catcttacta 300  
 gtgaagattt ctgccaatga agaaaaacaag tatgattatc ttccaactac 350  
 tggaagtgtg tgctcagaac tgggtgaagct agttttctgt gtgctgtgtg 400  
 cttctgtgtg tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 450



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 ttatttctctg gataacttga ttgtcttcta tgtcctgtcc tatcttcaac 550  
 cagccatggc tgttatcttc tcaaatTTta gcattataac aacagctctt 600  
 ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 650  
 cctcctgact ttatttttgt ctattgtggc ctgactgcc gggactaaaa 700  
 ctttacagca caacttgcca ggacgtggat ttoatcacga tgcctttttc 750  
 agcccttcca attcctgcct tcttttcaga agtgagtgtc ccagaaaaga 800  
 caattgtaca gcaaaggaat ggacttttcc tgaagctaaa tggaacacca 850  
 cagccagagt ttccagtcac atccgtcttg gcatgggcca tgttcttatt 900  
 atagtccagt gttttatttc ttoaatggct aatatctata atgaaaagat 950  
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 caagaaaagga tccagatct aagtggcaat ctttgggagc gttccagtgg 1400  
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 aagcttccaa aaaacttgta ataatoatgt tagctatagc ttgtatatc 1800  
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<210> 14  
 <211> 424  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
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 Thr Met Tyr Thr Phe Leu Leu Gly Ala Ile Phe Ile Ala Leu Ser  
 20 25 30  
 Ser Ser Arg Ile Leu Leu Val Lys Tyr Ser Ala Asn Glu Glu Asn  
 35 40 45  
 Lys Tyr Asp Tyr Leu Pro Thr Thr Val Asn Val Cys Ser Glu Leu  
 50 55 60  
 Val Lys Leu Val Phe Cys Val Leu Val Ser Phe Cys Val Ile Lys  
 65 70 75  
 Lys Asp His Gln Ser Arg Asn Leu Lys Tyr Ala Ser Trp Lys Glu  
 80 85 90  
 Phe Ser Asp Phe Met Lys Trp Ser Ile Pro Ala Phe Leu Tyr Phe  
 95 100 105  
 Leu Asp Asn Leu Ile Val Phe Tyr Val Leu Ser Tyr Leu Gln Pro  
 110 115 120

Ala Met Ala Val	Ile Phe Ser Asn Phe	Ser Ile Ile Thr Thr	Ala
125		130	135
Leu Leu Phe Arg	Ile Val Leu Lys Arg	Arg Leu Asn Trp Ile	Gln
140		145	150
Trp Ala Ser Leu	Leu Thr Leu Phe Leu	Ser Ile Val Ala Leu	Thr
155		160	165
Ala Gly Thr Lys	Thr Leu Gln His Asn	Leu Ala Gly Arg Gly	Phe
170		175	180
His His Asp Ala	Phe Phe Ser Pro Ser	Asn Ser Cys Leu Leu	Phe
185		190	195
Arg Ser Glu Cys	Pro Arg Lys Asp Asn	Cys Thr Ala Lys Glu	Trp
200		205	210
Thr Phe Pro Glu	Ala Lys Trp Asn Thr	Thr Ala Arg Val Phe	Ser
215		220	225
His Ile Arg Leu	Gly Met Gly His Val	Leu Ile Ile Val Gln	Cys
230		235	240
Phe Ile Ser Ser	Met Ala Asn Ile Tyr	Asn Glu Lys Ile Leu	Lys
245		250	255
Glu Gly Asn Gln	Leu Thr Glu Ser Ile	Phe Ile Gln Asn Ser	Lys
260		265	270
Leu Tyr Phe Phe	Gly Ile Leu Phe Asn	Gly Leu Thr Leu Gly	Leu
275		280	285
Gln Arg Ser Asn	Arg Asp Gln Ile Lys	Asn Cys Gly Phe Phe	Tyr
290		295	300
Gly His Ser Ala	Phe Ser Val Ala Leu	Ile Phe Val Thr Ala	Phe
305		310	315
Gln Gly Leu Ser	Val Ala Phe Ile Leu	Lys Phe Leu Asp Asn	Met
320		325	330
Phe His Val Leu	Met Ala Gln Val Thr	Thr Val Ile Ile Thr	Thr
335		340	345
Val Ser Val Leu	Val Phe Asp Phe Arg	Pro Ser Leu Glu Phe	Phe
350		355	360
Leu Glu Ala Pro	Ser Val Leu Leu Ser	Ile Phe Ile Tyr Asn	Ala
365		370	375
Ser Lys Pro Gln	Val Pro Glu Tyr Ala	Pro Arg Gln Glu Arg	Ile
380		385	390
Arg Asp Leu Ser	Gly Asn Leu Trp Glu	Arg Ser Ser Gly Asp	Gly
395		400	405
Glu Glu Leu Glu	Arg Leu Thr Lys Pro	Lys Ser Asp Glu Ser	Asp
410		415	420
Glu Asp Thr Phe			

<210> 15  
<211> 755  
<212> DNA  
<213> Homo sapiens

<400> 15  
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ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgtctc 150  
tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 200  
cactagaagc tcttctgagg gaggttaatta aaaaacagtg gaatggaaaa 250  
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tctgtctagg tgccatattc attgctttaa gctcaagtcg catcttacta 350  
gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 400  
tgtgaagtgt tgctcagaac tgggtgaagct agttttctgt gtgcttgtgt 450  
cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 500  
tctggaagg aattctctga ttctatgaag tgggtccattc ctgcttttct 550  
ttatttctct gataacttga ttgtcttcta tgtcctgtcc tatcttcaac 600  
cagccatggc tgttatcttc tcaaatttta gcattataac aacagctctt 650  
ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 700  
ctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 750  
cttta 755

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 16  
ctatacctac tgtagcttct 20

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 17  
tcagagaatt ccttcagga 20

<210> 18  
<211> 40  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 18

acagtgtgtg agtcatactg taatatgctc cttgtcaaca 40

<210> 19

<211> 2142

<212> DNA

<213> Homo sapiens

<400> 19

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gcggcctgcg gggcagagga gcatcccgtc taccaggctc caagcggcgt 150  
ggcccgcggg tcattggcaa aggagaagcg gccgagagcg gctccgcggc 200  
gggggtgcta cccaccagca tcctccaaag cactgaacgc ccggcccagg 250  
tgaagaaga accgaaaaag aagaacaac agttgtctgt ttgcaacaag 300  
ctttgctatg cacttggggg agccccctac caggtgacgg gctgtgcctt 350  
gggtttcttc cttcagatct acctattgga tgtggctcag gtgggccctt 400  
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gacccccctg tgggcctctg catcagcaaa tccccctgga cctgcctggg 500  
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 aacctcatca ttacatatgc ggtagctgtg gcagctggca tcagtggtgc 1350  
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 ccagcagctc tggctgctca gaaacagact ccacagagct ggctagcatc 1750  
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 gggatcagga cctgtctgcc ggcttgctga gcagctggac tgcaggtgct 1850  
 aggaagggaa ctgaagactc aaggaggtgg ccaggacac ttgctgtgct 1900  
 cactgtgggg cggctgctc tgtggcctcc tgcctccctc ctgctgctc 1950  
 gtggggccaa gccctggggc tgccactgtg aatatgccaa ggaactgatc 2000  
 ggctagccc ggaacactaa tgtagaaacc tttttttac agagccta 2050  
 taataactta atgactgtgt acatagcaat gtgtgtgtat gtatatgtct 2100  
 gtgagctatt aatgttatta atttcataa aagctggaaa gc 2142

<210> 20  
 <211> 458  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Trp Leu Arg Trp Ala Leu Ser Leu Pro Pro Ser Ser Cys Leu  
 1 5 10 15  
 Trp Ala Glu Pro Gly Met Pro Ser Gln Thr Pro Trp Trp Ala Ser  
 20 25 30  
 Ala Ser Ala Asn Pro Pro Gly Pro Ala Trp Val Ala Leu Cys Pro  
 35 40 45  
 Gly Ser Ser Ser Pro Arg Pro Trp Pro Ser Leu Pro Thr Ser Ser  
 50 55 60  
 Ser Gly Ser Cys Pro Thr Ser His Thr Ala Arg Pro Ile Gly Thr  
 65 70 75  
 Cys Phe Ser Ile Ala Ser Leu Lys Gln Trp Ser Arg Val Ser Met  
 80 85 90  
 Phe Pro Thr Arg Leu Ser Pro Cys Ser Ser Ala Thr Glu Gln Thr  
 95 100 105

Glu	Arg	Asp	Ser	Ala	Thr	Ala	Tyr	Arg	Met	Thr	Val	Glu	Val	Leu
				110					115					120
Gly	Thr	Val	Leu	Gly	Thr	Ala	Ile	Gln	Gly	Gln	Ile	Val	Gly	Gln
				125					130					135
Ala	Asp	Thr	Pro	Cys	Phe	Gln	Asp	Phe	Asn	Ser	Ser	Thr	Val	Ala
				140					145					150
Ser	Gln	Ser	Ala	Asn	His	Thr	His	Gly	Thr	Thr	Ser	His	Arg	Glu
				155					160					165
Thr	Gln	Lys	Ala	Tyr	Leu	Leu	Ala	Ala	Gly	Val	Ile	Val	Cys	Ile
				170					175					180
Tyr	Ile	Ile	Cys	Ala	Val	Ile	Leu	Ile	Leu	Gly	Val	Arg	Glu	Gln
				185					190					195
Arg	Glu	Pro	Tyr	Glu	Ala	Gln	Gln	Ser	Glu	Pro	Ile	Ala	Tyr	Phe
				200					205					210
Arg	Gly	Leu	Arg	Leu	Val	Met	Ser	His	Gly	Pro	Tyr	Ile	Lys	Leu
				215					220					225
Ile	Thr	Gly	Phe	Leu	Phe	Thr	Ser	Leu	Ala	Phe	Met	Leu	Val	Glu
				230					235					240
Gly	Asn	Phe	Val	Leu	Phe	Cys	Thr	Tyr	Thr	Leu	Gly	Phe	Arg	Asn
				245					250					255
Glu	Phe	Gln	Asn	Leu	Leu	Leu	Ala	Ile	Met	Leu	Ser	Ala	Thr	Leu
				260					265					270
Thr	Ile	Pro	Ile	Trp	Gln	Trp	Phe	Leu	Thr	Arg	Phe	Gly	Lys	Lys
				275					280					285
Thr	Ala	Val	Tyr	Val	Gly	Ile	Ser	Ser	Ala	Val	Pro	Phe	Leu	Ile
				290					295					300
Leu	Val	Ala	Leu	Met	Glu	Ser	Asn	Leu	Ile	Ile	Thr	Tyr	Ala	Val
				305					310					315
Ala	Val	Ala	Ala	Gly	Ile	Ser	Val	Ala	Ala	Ala	Phe	Leu	Leu	Pro
				320					325					330
Trp	Ser	Met	Leu	Pro	Asp	Val	Ile	Asp	Asp	Phe	His	Leu	Lys	Gln
				335					340					345
Pro	His	Phe	His	Gly	Thr	Glu	Pro	Ile	Phe	Phe	Ser	Phe	Tyr	Val
				350					355					360
Phe	Phe	Thr	Lys	Phe	Ala	Ser	Gly	Val	Ser	Leu	Gly	Ile	Ser	Thr
				365					370					375
Leu	Ser	Leu	Asp	Phe	Ala	Gly	Tyr	Gln	Thr	Arg	Gly	Cys	Ser	Gln
				380					385					390
Pro	Glu	Arg	Val	Lys	Phe	Thr	Leu	Asn	Met	Leu	Val	Thr	Met	Ala
				395					400					405
Pro	Ile	Val	Leu	Ile	Leu	Leu	Gly	Leu	Leu	Leu	Phe	Lys	Met	Tyr
				410					415					420

Pro Ile Asp Glu Glu Arg Arg Arg Gln Asn Lys Lys Ala Leu Gln  
 425 430 435

Ala Leu Arg Asp Glu Ala Ser Ser Ser Gly Cys Ser Glu Thr Asp  
 440 445 450

Ser Thr Glu Leu Ala Ser Ile Leu  
 455

<210> 21  
 <211> 571  
 <212> DNA  
 <213> Homo sapiens

<400> 21  
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 tatataatct gtgctgtcat cctgatccctg ggcgtgctggc agcagagaga 100  
 accctatgaa gccacgcagt ctgagccaat cgccacttc cggggcctac 150  
 ggctgggtcat gagccacggc ccatacatca aacttattac tggcttcctc 200  
 ttcaacctct tggctttcat gctggtggag ggaactttg tcttgtttt 250  
 caccacacc ttgggcttcc gcaatgaatt ccagaatcta ctccctggcca 300  
 tcatgtctctc ggccacttta accattccca tctggcagtg gttcttgacc 350  
 cggtttgcca agaagacagc tgtatatgtt gggatctcat cagcagtgcc 400  
 atttctctc ttggtggccc tcatggagag taacctctc attacatatg 450  
 cggtagctgt ggcagctggc atcagtggtg cagctgcctt ctactaccc 500  
 tgggtccatgc tgctgatgt cattgacgac ttccatctga agcagcccca 550  
 ctcccatgga accgagccca t 571

<210> 22  
 <211> 1173  
 <212> DNA  
 <213> Homo sapiens

<400> 22  
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 aaaggtgcag gtatgagcag gtctgaagac taacattttg tgaagttgta 100  
 aaacagaaaa cctgttagaa atgtggtggt ttccagcaagg cctcagtttc 150  
 ctctcctcag cccttgtaat ttggacatct gctgctttca tattttcata 200  
 cattactgca gtaacactcc accatataga cccggcttta ccttatatca 250  
 gtgacactgg tacagtagct ccagaaaaat gcttattttg ggcaatgcta 300  
 aatattgagg cagttttatg cattgctacc atttatgttc gttataagca 350  
 agttcatgct ctgagctcctg aagagaacgt tatcatcaaa ttaacaagg 400  
 ctggccttgt acttgggaata ctgagttggt taggactttc tattgtggca 450



aacttccaga aaacaaccct ttttgctgca catgtaagtg gagctgtgct 500  
taccttttgg atgggctcat tatatatgtt tgttcagacc atcctttcct 550  
accaaatgca gcccaaatc catggcaaac aagtcttctg gatcagactg 600  
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taacctctta tgacactgca ccttgcctta ttaacaatga acgaacacgg 900  
ctactttcca gagatatattg atgaaaggat aaaatatctc tgtaatgatt 950  
atgattctca gggattgggg aaagggtcac agaagtgtct tattctctc 1000  
tgaaattttc aaccacttaa tcaaggctga cagtaacact gatgaatgct 1050  
gataatcagg aaacatgaaa gaagccattt gatagattat tctaaaggat 1100  
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gaaaataaag tcaaaagact atg 1173

<210> 23  
<211> 266  
<212> PRT  
<213> Homo sapiens

<400> 23  
Met Trp Trp Phe Gln Gln Gly Leu Ser Phe Leu Pro Ser Ala Leu  
1 5 10 15  
Val Ile Trp Thr Ser Ala Ala Phe Ile Phe Ser Tyr Ile Thr Ala  
20 25 30  
Val Thr Leu His His Ile Asp Pro Ala Leu Pro Tyr Ile Ser Asp  
35 40 45  
Thr Gly Thr Val Ala Pro Glu Lys Cys Leu Phe Gly Ala Met Leu  
50 55 60  
Asn Ile Ala Ala Val Leu Cys Ile Ala Thr Ile Tyr Val Arg Tyr  
65 70 75  
Lys Gln Val His Ala Leu Ser Pro Glu Glu Asn Val Ile Ile Lys  
80 85 90  
Leu Asn Lys Ala Gly Leu Val Leu Gly Ile Leu Ser Cys Leu Gly  
95 100 105  
Leu Ser Ile Val Ala Asn Phe Gln Lys Thr Thr Leu Phe Ala Ala  
110 115 120  
His Val Ser Gly Ala Val Leu Thr Phe Gly Met Gly Ser Leu Tyr  
125 130 135

Met Phe Val Gln Thr Ile Leu Ser Tyr Gln Met Gln Pro Lys Ile  
140 145 150

His Gly Lys Gln Val Phe Trp Ile Arg Leu Leu Leu Val Ile Trp  
155 160 165

Cys Gly Val Ser Ala Leu Ser Met Leu Thr Cys Ser Ser Val Leu  
170 175 180

His Ser Gly Asn Phe Gly Thr Asp Leu Gln Lys Leu His Trp  
185 190 195

Asn Pro Glu Asp Lys Gly Tyr Val Leu His Met Ile Thr Thr Ala  
200 205 210

Ala Glu Trp Ser Met Ser Phe Ser Phe Phe Gly Phe Phe Leu Thr  
215 220 225

Tyr Ile Arg Asp Phe Gln Lys Ile Ser Leu Arg Val Glu Ala Asn  
230 235 240

Leu His Gly Leu Thr Leu Tyr Asp Thr Ala Pro Cys Pro Ile Asn  
245 250 255

Asn Glu Arg Thr Arg Leu Leu Ser Arg Asp Ile  
260 265

<210> 24  
<211> 485  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 14, 484  
<223> unknown base

<400> 24  
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ctgatgcoga gttcogtctc tcgggtcttt tctgggtccc aggcaaagcg 100  
gagcggagat cctcaaacgg cctagtgtct cgcgcttccg gagaaaatca 150  
gcggtctaata taattcctct ggtttgttga agcagttacc aagaatcttc 200  
aaccctttcc cacaaaagct aattgagtac acgttctctg tgagtacacg 250  
ttcctgttga ttacaaaag gtgcaggtat gagcaggtct gaagactaac 300  
attttgtgaa gttgtaaaac agaaaacctg ttagaaatgt ggtgggttca 350  
gcaaggccct agtttccttc cttcagccct tgtaatttgg acatctgctg 400  
ctttcatatt ttcatacatt actgcagtaa cactccacca tatagaccgg 450  
gctttacctt atatcagtga cactgggtaca gtanc 485

<210> 25  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 25  
acctgttaga aatgtggtgg ttccagcaag gcctcagttt 40

<210> 26  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 26  
ggagatagct gctatgggtt cttcaggcac aacttaacat gggaag 46

<210> 27  
<211> 1399  
<212> DNA  
<213> Homo sapiens

<400> 27  
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ctgcccgcgc ggcgggggtg cggagccgac atgcgccgcg ttctcggcct 100  
ccttctgggtc ttccgcccgt gcaccttcgc cttgtacttg ctgtcgacgc 150  
gactgccccg cgggcccaga ctgggtccca ccgaggaggc tggaggcagg 200  
tcgctgtggt tccctccaga cctggcagag ctgcgggagc tctctgaggt 250  
ccttcgagag taccggaagg agcaccaggc ctacgtgttc ctgctcttct 300  
gcggcgccca cctctacaaa cagggtcttg ccatcccccg ctccagcttc 350  
ctgaatgttt tagctggtgc cttgtttggg ccattggctgg ggcctctgct 400  
gtgctgtgtg ttgacctcgg tgggtgccac atgctgtctc ctgctctcca 450  
gtattttttg caaacagttg ttggtgtcct actttcctga taaagtggcc 500  
ctgctgcaga gaaaggttga ggagaacaga aacagcttgt tttttttctt 550  
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agctgttggc cattgccatg gtggcattaa ttcctgggac cctcattaaa 800  
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 gccaggcggt gtggcaggca cctgtaatcc cagctactcg ggaggctgag 1300  
 gcaggagaat tgcttgaacc aaggtggcag aggttgagcgt aagccaagat 1350  
 cacaccactg cactccagcc tgggtgatag agtgagacac tgtcttgac 1399

<210> 28  
 <211> 264  
 <212> PRT  
 <213> Homo sapiens

<400> 28  
 Met Arg Pro Leu Leu Gly Leu Leu Leu Val Phe Ala Gly Cys Thr  
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 Phe Ala Leu Tyr Leu Leu Ser Thr Arg Leu Pro Arg Gly Arg Arg  
 20 25 30  
 Leu Gly Ser Thr Glu Glu Ala Gly Gly Arg Ser Leu Trp Phe Pro  
 35 40 45  
 Ser Asp Leu Ala Glu Leu Arg Glu Leu Ser Glu Val Leu Arg Glu  
 50 55 60  
 Tyr Arg Lys Glu His Gln Ala Tyr Val Phe Leu Leu Phe Cys Gly  
 65 70 75  
 Ala Tyr Leu Tyr Lys Gln Gly Phe Ala Ile Pro Gly Ser Ser Phe  
 80 85 90  
 Leu Asn Val Leu Ala Gly Ala Leu Phe Gly Pro Trp Leu Gly Leu  
 95 100 105  
 Leu Leu Cys Cys Val Leu Thr Ser Val Gly Ala Thr Cys Cys Tyr  
 110 115 120  
 Leu Leu Ser Ser Ile Phe Gly Lys Gln Leu Val Val Ser Tyr Phe  
 125 130 135  
 Pro Asp Lys Val Ala Leu Leu Gln Arg Lys Val Glu Glu Asn Arg  
 140 145 150  
 Asn Ser Leu Phe Phe Phe Leu Leu Phe Leu Arg Leu Phe Pro Met  
 155 160 165  
 Thr Pro Asn Trp Phe Leu Asn Leu Ser Ala Pro Ile Leu Asn Ile  
 170 175 180  
 Pro Ile Val Gln Phe Phe Phe Ser Val Leu Ile Gly Leu Ile Pro  
 185 190 195  
 Tyr Asn Phe Ile Cys Val Gln Thr Gly Ser Ile Leu Ser Thr Leu  
 200 205 210



aggggtccag cctttggtca tctgcatgg aaccgcttcc tcagaactgt 1200  
 aggaaataga actgtgcaca ggaacagctt ccagagccga aaaccagggt 1250  
 gaaaggggaa aaataaaaaac aaaaacgatg aaactgcaaa aa 1292

<210> 30  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Asp Leu Ala Ala Asn Glu Ile Ser Ile Tyr Asp Lys Leu Ser  
 1 5 10 15  
 Glu Thr Val Asp Leu Val Arg Gln Thr Gly His Gln Cys Gly Met  
 20 25 30  
 Ser Glu Lys Ala Ile Glu Lys Phe Ile Arg Gln Leu Leu Glu Lys  
 35 40 45  
 Asn Glu Pro Gln Arg Pro Pro Pro Gln Tyr Pro Leu Leu Ile Val  
 50 55 60  
 Val Tyr Lys Val Leu Ala Thr Leu Gly Leu Ile Leu Leu Thr Ala  
 65 70 75  
 Tyr Phe Val Ile Gln Pro Phe Ser Pro Leu Ala Pro Glu Pro Val  
 80 85 90  
 Leu Ser Gly Ala His Thr Trp Arg Ser Leu Ile His His Ile Arg  
 95 100 105  
 Leu Met Ser Leu Pro Ile Ala Lys Lys Tyr Met Ser Glu Asn Lys  
 110 115 120  
 Gly Val Pro Leu His Gly Gly Asp Glu Asp Arg Pro Phe Pro Asp  
 125 130 135  
 Phe Asp Pro Trp Trp Thr Asn Asp Cys Glu Gln Asn Glu Ser Glu  
 140 145 150  
 Pro Ile Pro Ala Asn Cys Thr Gly Cys Ala Gln Lys His Leu Lys  
 155 160 165  
 Val Met Leu Leu Glu Asp Ala Pro Arg Lys Phe Glu Arg Leu His  
 170 175 180  
 Pro Leu Val Ile Lys Thr Gly Lys Pro Leu Leu Glu Glu Glu Ile  
 185 190 195  
 Gln His Phe Leu Cys Gln Tyr Pro Glu Ala Thr Glu Gly Phe Ser  
 200 205 210  
 Glu Gly Phe Phe Ala Lys Trp Trp Arg Cys Phe Pro Glu Arg Trp  
 215 220 225  
 Phe Pro Phe Pro Tyr Pro Trp Arg Arg Pro Leu Asn Arg Ser Gln  
 230 235 240  
 Met Leu Arg Glu Leu Phe Pro Val Phe Thr His Leu Pro Phe Pro  
 245 250 255

Lys Asp Ala Ser Leu Asn Lys Cys Ser Phe Leu His Pro Glu Pro  
 260 265 270  
 Val Val Gly Ser Lys Met His Lys Met Pro Asp Leu Phe Ile Ile  
 275 280 285  
 Gly Ser Gly Glu Ala Met Leu Gln Leu Ile Pro Pro Phe Gln Cys  
 290 295 300  
 Arg Arg His Cys Gln Ser Val Ala Met Pro Ile Glu Pro Gly Asp  
 305 310 315  
 Ile Gly Tyr Val Asp Thr Thr His Trp Lys Val Tyr Val Ile Ala  
 320 325 330  
 Arg Gly Val Gln Pro Leu Val Ile Cys Asp Gly Thr Ala Phe Ser  
 335 340 345  
 Glu Leu

<210> 31  
 <211> 478  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
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 gttctcagcc gttcagttgt gatcaaggga cactgtgttt ccgaactgcc 150  
 agctcagaat aggaaaaataa cttgggattt tatattggaa gacatggatc 200  
 ttgctgccaa cgagatcagc atttatgaca aacttcaga gactgttgat 250  
 ttggtgagac agaccggcca tcagtgtggc atgtcagaga aggcaattga 300  
 aaaatttatc agacagctgc tggaaaagaa tgaacctcag agaccccccc 350  
 cgcagtatcc tctccttata gttgtgtata aggttctcgc aaccttggga 400  
 ttaattcttc tcaactgcta ctttgtgatt caacctttca gccattagc 450  
 acctgagcca gtgctttgtg gagctcac 478

<210> 32  
 <211> 3531  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
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 gcagagcgct gctcctggct ggtgccactg gtgcgcacgc tgcagacgg 150  
 tgccctatgag ccgctggggc tgcagtgagg actgccctcc ctgccaccca 200  
 ccaatggcag cccaccttc tttgaagact tccaggcttt ttgtgccaca 250

cccgaatggc gccacttcat cgacaaacag gtacagccaa ccatgtccca 300  
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 ggaatgcctg ctatgacatg cttatgagca gtgggcagcg gcgccagtgg 400  
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 cgccagctcg ccagcccatt tggggcctgg gcgctgaggg acactcccat 600  
 cccccgtcgg aaactgtcca gcgcggagac atattcacgc atgcgtctga 650  
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 tgcaggagga ccagctcggc gaggacgagc tggctgagct ggagacccc 850  
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 cgagtggcag ctggtgacgg tagtggccgt ggtccagggg ctgctggagg 950  
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 accgaggagg gcacgggcta tgatttccgg cggccactgg cccagctcgc 1050  
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 tctttatoga tcaggccaac tacttctcca acttcccatg caaggtgggc 1150  
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 catccccccc catacccagg tacggaacca ggtgtactcg tggctcctgc 1250  
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 atgacctgtc tcagtacct gtgttcccc gggtcctgca ggactacgtg 1450  
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 gcccttcacc tccctgcacg tccagctgca aagtggccgc tttgactgct 1700  
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 cttcctggag aaccagaacg gttttgacct gggctgtctc cagctgacca 1850



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acacctacac gagtggtatc acctcatctt tggctacaag cagcgggggc 2000  
cagccgccga ggaggccctc aatgtcttct attactgcac ctatgagggg 2050  
gctgtagacc tggaccatgt gacagatgag cgggaacgga aggtcttggg 2100  
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ctggacacta actcacctag catcttccag cacctggagc aactcaaggc 2250  
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gctggttgcc ctatgaccgc aacataagca actacttcag cttcagcaaa 2350  
gaccccacca tgggcagcca caagacgcag cgaactgtga gtggccctg 2400  
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gcactacccc gtggcaagct gttgagccag ctgagctgcc acctgatgt 2550  
agtaacctgc cttgcactgg acacctgtgg catctacctc atctcaggct 2600  
cccgggacac cacgtgcatg gtgtggcggc tcctgcatca ggggtgctg 2650  
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tgcatgtagc tgtgtggcca tcagcactga acttgacatg gctgtgtctg 2750  
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cagggggtga gcggggccca ccctgccag ctcagggtt ggcgggcgat 3450

gttaccacct cagggattgg cgggcggaag tcccgccct cgcggctga 3500  
 ggggccccc tgaggccag cactggcgtc t 3531

<210> 33  
 <211> 1003  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
 Met Ser Gln Phe Glu Met Asp Thr Tyr Ala Lys Ser His Asp Leu  
 1 5 10 15  
 Met Ser Gly Phe Trp Asn Ala Cys Tyr Asp Met Leu Met Ser Ser  
 20 25 30  
 Gly Gln Arg Arg Gln Trp Glu Arg Ala Gln Ser Arg Arg Ala Phe  
 35 40 45  
 Gln Glu Leu Val Leu Glu Pro Ala Gln Arg Ala Arg Leu Glu  
 50 55 60  
 Gly Leu Arg Tyr Thr Ala Val Leu Lys Gln Gln Ala Thr Gln His  
 65 70 75  
 Ser Met Ala Leu Leu His Trp Gly Ala Leu Trp Arg Gln Leu Ala  
 80 85 90  
 Ser Pro Cys Gly Ala Trp Ala Leu Arg Asp Thr Pro Ile Pro Arg  
 95 100 105  
 Trp Lys Leu Ser Ser Ala Glu Thr Tyr Ser Arg Met Arg Leu Lys  
 110 115 120  
 Leu Val Pro Asn His Phe Asp Pro His Leu Glu Ala Ser Ala  
 125 130 135  
 Leu Arg Asp Asn Leu Gly Glu Val Pro Leu Thr Pro Thr Glu Glu  
 140 145 150  
 Ala Ser Leu Pro Leu Ala Val Thr Lys Glu Ala Lys Val Ser Thr  
 155 160 165  
 Pro Pro Glu Leu Leu Gln Glu Asp Gln Leu Gly Glu Asp Glu Leu  
 170 175 180  
 Ala Glu Leu Glu Thr Pro Met Glu Ala Glu Leu Asp Glu Gln  
 185 190 195  
 Arg Glu Lys Leu Val Leu Ser Ala Glu Cys Gln Leu Val Thr Val  
 200 205 210  
 Val Ala Val Val Pro Gly Leu Leu Glu Val Thr Thr Gln Asn Val  
 215 220 225  
 Tyr Phe Tyr Asp Gly Ser Thr Glu Arg Val Glu Thr Glu Glu Gly  
 230 235 240  
 Ile Gly Tyr Asp Phe Arg Arg Pro Leu Ala Gln Leu Arg Glu Val  
 245 250 255  
 His Leu Arg Arg Phe Asn Leu Arg Arg Ser Ala Leu Glu Leu Phe  
 260 265 270

Phe	Ile	Asp	Gln	Ala	Asn	Tyr	Phe	Leu	Asn	Phe	Pro	Cys	Lys	Val	275	280	285
Gly	Thr	Thr	Pro	Val	Ser	Ser	Pro	Ser	Gln	Thr	Pro	Arg	Pro	Gln	290	295	300
Pro	Gly	Pro	Ile	Pro	Pro	His	Thr	Gln	Val	Arg	Asn	Gln	Val	Tyr	305	310	315
Ser	Trp	Leu	Leu	Arg	Leu	Arg	Pro	Pro	Ser	Gln	Gly	Tyr	Leu	Ser	320	325	330
Ser	Arg	Ser	Pro	Gln	Glu	Met	Leu	Arg	Ala	Ser	Gly	Leu	Thr	Gln	335	340	345
Lys	Trp	Val	Gln	Arg	Glu	Ile	Ser	Asn	Phe	Glu	Tyr	Leu	Met	Gln	350	355	360
Leu	Asn	Thr	Ile	Ala	Gly	Arg	Thr	Tyr	Asn	Asp	Leu	Ser	Gln	Tyr	365	370	375
Pro	Val	Phe	Pro	Trp	Val	Leu	Gln	Asp	Tyr	Val	Ser	Pro	Thr	Leu	380	385	390
Asp	Leu	Ser	Asn	Pro	Ala	Val	Phe	Arg	Asp	Leu	Ser	Lys	Pro	Ile	395	400	405
Gly	Val	Val	Asn	Pro	Lys	His	Ala	Gln	Leu	Val	Arg	Glu	Lys	Tyr	410	415	420
Glu	Ser	Phe	Glu	Asp	Pro	Ala	Gly	Thr	Ile	Asp	Lys	Phe	His	Tyr	425	430	435
Gly	Thr	His	Tyr	Ser	Asn	Ala	Ala	Gly	Val	Met	His	Tyr	Leu	Ile	440	445	450
Arg	Val	Glu	Pro	Phe	Thr	Ser	Leu	His	Val	Gln	Leu	Gln	Ser	Gly	455	460	465
Arg	Phe	Asp	Cys	Ser	Asp	Arg	Gln	Phe	His	Ser	Val	Ala	Ala	Ala	470	475	480
Trp	Gln	Ala	Arg	Leu	Glu	Ser	Pro	Ala	Asp	Val	Lys	Glu	Leu	Ile	485	490	495
Pro	Glu	Phe	Phe	Tyr	Phe	Pro	Asp	Phe	Leu	Glu	Asn	Gln	Asn	Gly	500	505	510
Phe	Asp	Leu	Gly	Cys	Leu	Gln	Leu	Thr	Asn	Glu	Lys	Val	Gly	Asp	515	520	525
Val	Val	Leu	Pro	Pro	Trp	Ala	Ser	Ser	Pro	Glu	Asp	Phe	Ile	Gln	530	535	540
Gln	His	Arg	Gln	Ala	Leu	Glu	Ser	Glu	Tyr	Val	Ser	Ala	His	Leu	545	550	555
His	Glu	Trp	Ile	Asp	Leu	Ile	Phe	Gly	Tyr	Lys	Gln	Arg	Gly	Pro	560	565	570
Ala	Ala	Glu	Glu	Ala	Leu	Asn	Val	Phe	Tyr	Tyr	Cys	Thr	Tyr	Glu	575	580	585

Gly	Ala	Val	Asp	Leu	Asp	His	Val	Thr	Asp	Glu	Arg	Glu	Arg	Lys
				590					595					600
Ala	Leu	Glu	Gly	Ile	Ile	Ser	Asn	Phe	Gly	Gln	Thr	Pro	Cys	Gln
				605					610					615
Leu	Leu	Lys	Glu	Pro	His	Pro	Thr	Arg	Leu	Ser	Ala	Glu	Glu	Ala
				620					625					630
Ala	His	Arg	Leu	Ala	Arg	Leu	Asp	Thr	Asn	Ser	Pro	Ser	Ile	Phe
				635					640					645
Gln	His	Leu	Asp	Glu	Leu	Lys	Ala	Phe	Phe	Ala	Glu	Val	Thr	Val
				650					655					660
Ser	Ala	Ser	Gly	Leu	Leu	Gly	Thr	His	Ser	Trp	Leu	Pro	Tyr	Asp
				665					670					675
Arg	Asn	Ile	Ser	Asn	Tyr	Phe	Ser	Phe	Ser	Lys	Asp	Pro	Thr	Met
				680					685					690
Gly	Ser	His	Lys	Thr	Gln	Arg	Leu	Leu	Ser	Gly	Pro	Trp	Val	Pro
				695					700					705
Gly	Ser	Gly	Val	Ser	Gly	Gln	Ala	Leu	Ala	Val	Ala	Pro	Asp	Gly
				710					715					720
Lys	Leu	Leu	Phe	Ser	Gly	Gly	His	Trp	Asp	Gly	Ser	Leu	Arg	Val
				725					730					735
Thr	Ala	Leu	Pro	Arg	Gly	Lys	Leu	Leu	Ser	Gln	Leu	Ser	Cys	His
				740					745					750
Leu	Asp	Val	Val	Thr	Cys	Leu	Ala	Leu	Asp	Thr	Cys	Gly	Ile	Tyr
				755					760					765
Leu	Ile	Ser	Gly	Ser	Arg	Asp	Thr	Thr	Cys	Met	Val	Trp	Arg	Leu
				770					775					780
Leu	His	Gln	Gly	Gly	Leu	Ser	Val	Gly	Leu	Ala	Pro	Lys	Pro	Val
				785					790					795
Gln	Val	Leu	Tyr	Gly	His	Gly	Ala	Ala	Val	Ser	Cys	Val	Ala	Ile
				800					805					810
Ser	Thr	Glu	Leu	Asp	Met	Ala	Val	Ser	Gly	Ser	Glu	Asp	Gly	Thr
				815					820					825
Val	Ile	Ile	His	Thr	Val	Arg	Arg	Gly	Gln	Phe	Val	Ala	Ala	Leu
				830					835					840
Arg	Pro	Leu	Gly	Ala	Thr	Phe	Pro	Gly	Pro	Ile	Phe	His	Leu	Ala
				845					850					855
Leu	Gly	Ser	Glu	Gly	Gln	Ile	Val	Val	Gln	Ser	Ser	Ala	Trp	Glu
				860					865					870
Arg	Pro	Gly	Ala	Gln	Val	Thr	Tyr	Ser	Leu	His	Leu	Tyr	Ser	Val
				875					880					885
Asn	Gly	Lys	Leu	Arg	Ala	Ser	Leu	Pro	Leu	Ala	Glu	Gln	Pro	Thr
				890					895					900

Ala Leu Thr Val Thr Glu Asp Phe Val Leu Leu Gly Thr Ala Gln  
905 910 915

Cys Ala Leu His Ile Leu Gln Leu Asn Thr Leu Leu Pro Ala Ala  
920 925 930

Pro Pro Leu Pro Met Lys Val Ala Ile Arg Ser Val Ala Val Thr  
935 940 945

Lys Glu Arg Ser His Val Leu Val Gly Leu Glu Asp Gly Lys Leu  
950 955 960

Ile Val Val Val Ala Gly Gln Pro Ser Glu Val Arg Ser Ser Gln  
965 970 975

Phe Ala Arg Lys Leu Trp Arg Ser Ser Arg Arg Ile Ser Gln Val  
980 985 990

Ser Ser Gly Glu Thr Glu Tyr Asn Pro Thr Glu Ala Arg  
995 1000

<210> 34

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 34

tgactgcact accccgtggc aagctgttga gccagctcag ctg 43

<210> 35

<211> 1395

<212> DNA

<213> Homo sapiens

<400> 35

cggacgcgtg ggcggacgcg tgggggctgt gagaaagtgc caataaatac 50

atcatgcaac cccacggccc accttgtgaa ctctctgtgc ccagggctga 100

tgtagctgtt ccagggtctac tcatccaaag gcctaatacca acgttctgtc 150

ttcaatctgc aaatctatgg ggtcctgggg ctcttctgga ccttaactg 200

ggtactggcc ctggggcaat gcgtcctcgc tggagccttt gcctccttct 250

actgggcctt ccacaagccc caggacatcc ctaccttccc cttaatctct 300

gccttcaccc gcacactccg ttaccacact gggtcattgg catttggagc 350

cctcatcctg acccttgtgc agatagcccg ggtcatcttg gagtatattg 400

accacaagct cagaggagtg cagaaccctg tagcccgcgt catcatgtgc 450

tgtttcaagt gctgcctctg gtgtctggaa aaatttatca agttcctaaa 500

cgcgaatgca tacatcatga tcgccatcta cggaagaat ttctgtgtct 550

cagccaaaaa tgcgttcatg ctactcatgc gaaacattgt cagggtggtc 600

gtcttggaac aagtcacaga cctgtgtgtg ttctttggga agctgctggt 650

ggtcggaggc gtgggggtcc tgccttctt tttttctcc ggtcgcaccc 700  
 cgggggtggg taaagacttt aagagccccc acctcaacta ttactggctg 750  
 cccatcatga cctccatcct gggggcctat gtcacgcga gcgcttctt 800  
 cagcgttttc ggcattgtgt tgacacgct ctctctctgc ttcctggaag 850  
 acctggagcg gaacaacggc tccctggacc ggcctacta catgtccaag 900  
 agccttctaa agattctggg caagaagaac gaggcgccc cggacaacaa 950  
 gaagaggaag aagtgcagc tccggccctg atccaggact gcacccacc 1000  
 cccaccgtcc agccatccaa cctcacttcg ccttacaggt ctccattttg 1050  
 tggtaaaaaa aggttttagg ccaggcgccg tggtcacgc ctgtaatcca 1100  
 acactttgag aggtgagcg gggcgatca cctgagtcag gaggtcgaga 1150  
 ccagcctgac caacatgggt aaacctccgt ctctattaaa aatacaaaaa 1200  
 ttagccgaga gtggtggcat gcacctgtca tccagctac tcgggaggct 1250  
 gaggcaggag aatcgcttga acccgggagg cagaggttc agtgagccga 1300  
 gatcgccca ctgcactcca acctgggtga cagactctgt ctccaaaaca 1350  
 aaacaaacaa acaaaaagat ttattaaag atattttgtt aactc 1395

<210> 36  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
 Arg Thr Arg Gly Arg Thr Arg Gly Gly Cys Glu Lys Val Pro Ile  
 1 5 10 15  
 Asn Thr Ser Cys Asn Pro Thr Ala His Leu Val Asn Ser Ser Cys  
 20 25 30  
 Pro Gly Leu Met Cys Val Phe Gln Gly Tyr Ser Ser Lys Gly Leu  
 35 40 45  
 Ile Gln Arg Ser Val Phe Asn Leu Gln Ile Tyr Gly Val Leu Gly  
 50 55 60  
 Leu Phe Trp Thr Leu Asn Trp Val Leu Ala Leu Gly Gln Cys Val  
 65 70 75  
 Leu Ala Gly Ala Phe Ala Ser Phe Tyr Trp Ala Phe His Lys Pro  
 80 85 90  
 Gln Asp Ile Pro Thr Phe Pro Leu Ile Ser Ala Phe Ile Arg Thr  
 95 100 105  
 Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu  
 110 115 120  
 Thr Leu Val Gln Ile Ala Arg Val Ile Leu Glu Tyr Ile Asp His  
 125 130 135

Lys	Leu	Arg	Gly	Val	Gln	Asn	Pro	Val	Ala	Arg	Cys	Ile	Met	Cys
				140					145					150
Cys	Phe	Lys	Cys	Cys	Leu	Trp	Cys	Leu	Glu	Lys	Phe	Ile	Lys	Phe
				155					160					165
Leu	Asn	Arg	Asn	Ala	Tyr	Ile	Met	Ile	Ala	Ile	Tyr	Gly	Lys	Asn
				170					175					180
Phe	Cys	Val	Ser	Ala	Lys	Asn	Ala	Phe	Met	Leu	Leu	Met	Arg	Asn
				185					190					195
Ile	Val	Arg	Val	Val	Val	Leu	Asp	Lys	Val	Thr	Asp	Leu	Leu	Leu
				200					205					210
Phe	Phe	Gly	Lys	Leu	Leu	Val	Val	Gly	Gly	Val	Gly	Val	Leu	Ser
				215					220					225
Phe	Phe	Phe	Phe	Ser	Gly	Arg	Ile	Pro	Gly	Leu	Gly	Lys	Asp	Phe
				230					235					240
Lys	Ser	Pro	His	Leu	Asn	Tyr	Tyr	Trp	Leu	Pro	Ile	Met	Thr	Ser
				245					250					255
Ile	Leu	Gly	Ala	Tyr	Val	Ile	Ala	Ser	Gly	Phe	Phe	Ser	Val	Phe
				260					265					270
Gly	Met	Cys	Val	Asp	Thr	Leu	Phe	Leu	Cys	Phe	Leu	Glu	Asp	Leu
				275					280					285
Glu	Arg	Asn	Asn	Gly	Ser	Leu	Asp	Arg	Pro	Tyr	Tyr	Met	Ser	Lys
				290					295					300
Ser	Leu	Leu	Lys	Ile	Leu	Gly	Lys	Lys	Asn	Glu	Ala	Pro	Pro	Asp
				305					310					315
Asn	Lys	Lys	Arg	Lys	Lys									
				320										

<210> 37  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 37  
 tcgtgcccag gggctgatgt gc 22

<210> 38  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 38  
 gtctttaccc agccccggga tgcg 24

<210> 39  
 <211> 50

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 39  
ggcctaattcc aacgtttctgt cttcaatctg caaatctatg gggtcctggg 50

<210> 40  
<211> 1365  
<212> DNA  
<213> Homo sapiens

<400> 40  
gagtccttgac cgccgcggg ctcttggtac ctcagcgga gcgccaggcg 50  
tccggccgcc gtggctatgt tcgtgtccga ttccgcaaa gaggttctacg 100  
agggtggtcca gagccagagg gtccctctct tcgtggcctc ggacgtggat 150  
gtctctgtgt cgtgcaagat ccttcaggcc ttgttccagt gtgaccacgt 200  
gcaatatacg ctggttccag ttctctgggt gcaagaacct gaaactgcat 250  
ttcttgagca taaagaacag ttctattatt ttattctcat aaactgtgga 300  
gctaagttag acctattgga tattcttcaa cctgatgaag aactatatt 350  
ctttgtgtgt gactccata ggccagtcga tgcgtcaat gtatacaacg 400  
ataccagat caaattactc attaaacaag atgatgacct tgaagttccc 450  
gcctatgaag acatcttcag ggatgaagag gaggatgaag agcattcagg 500  
aaatgacagt gatgggtcag agcctctga gaagcgaca cggttagaag 550  
aggagatagt ggagcaaacc atgcggagga ggcagcggcg agagtgggag 600  
gcccggagaa gagacatcct ctttgactac gagcagtatg aatatcatgg 650  
gacatcgta gccatggtga tgtttgagct ggcttggatg ctgtccaagg 700  
acctgaatga catgctgtgg tgggccatcg ttggactaac agaccagtgg 750  
gtgcaagaca agatcactca aatgaaatac gtgactgatg ttggtgtcct 800  
gcagcgccac gtttccgcc acaaccacg gaacgaggat gaggagaaca 850  
cactctcgt ggactgcaca cggatctcct ttgagtatga cctccgctg 900  
gtgctctacc agcactggtc cctccatgac agcctgtgca acaccagcta 950  
taccgcagcc aggttcaagc tgtggtctgt gcatggacag aagcggctcc 1000  
aggagtctct tgcagacatg ggtcttcccc tgaagcaggt gaagcagaag 1050  
ttccaggcca tggacatctc cttgaaggag aatttgcggg aaatgattga 1100  
agagctcgca aataaatttg ggatgaagga catgcgcgtg cagactttca 1150  
gcattcatth tgggttcaag cacaagttht tggccagcga cgtggtctth 1200



gccaccatgt ctttgatgga gagccccgag aaggatggct cagggacaga 1250  
 tcacttcate caggctctgg acagcctctc caggagtaac ctggacaagc 1300  
 tgtaccatgg cctggaactc gccaagaagc agctgcgagc caccacgagc 1350  
 accattgcca gctgc 1365

<210> 41  
 <211> 566  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Met Phe Val Ser Asp Phe Arg Lys Glu Phe Tyr Glu Val Val Gln 15  
 1 5 10  
 Ser Gln Arg Val Leu Leu Phe Val Ala Ser Asp Val Asp Ala Leu 30  
 20 25  
 Cys Ala Cys Lys Ile Leu Gln Ala Leu Phe Gln Cys Asp His Val 45  
 35 40  
 Gln Tyr Thr Leu Val Pro Val Ser Gly Trp Gln Glu Leu Glu Thr 60  
 50 55  
 Ala Phe Leu Glu His Lys Glu Gln Phe His Tyr Phe Ile Leu Ile 75  
 65 70  
 Asn Cys Gly Ala Asn Val Asp Leu Leu Asp Ile Leu Gln Pro Asp 90  
 80 85  
 Glu Asp Thr Ile Phe Phe Val Cys Asp Ser His Arg Pro Val Asn 105  
 95 100  
 Val Val Asn Val Tyr Asn Asp Thr Gln Ile Lys Leu Leu Ile Lys 120  
 110 115  
 Gln Asp Asp Asp Leu Glu Val Pro Ala Tyr Glu Asp Ile Phe Arg 135  
 125 130  
 Asp Glu Glu Glu Asp Glu Glu His Ser Gly Asn Asp Ser Asp Gly 150  
 140 145  
 Ser Glu Pro Ser Glu Lys Arg Thr Arg Leu Glu Glu Glu Ile Val 165  
 155 160  
 Glu Gln Thr Met Arg Arg Arg Gln Arg Arg Glu Trp Glu Ala Arg 180  
 170 175  
 Arg Arg Asp Ile Leu Phe Asp Tyr Glu Gln Tyr Glu Tyr His Gly 195  
 185 190  
 Thr Ser Ser Ala Met Val Met Phe Glu Leu Ala Trp Met Leu Ser 210  
 200 205  
 Lys Asp Leu Asn Asp Met Leu Trp Trp Ala Ile Val Gly Leu Thr 225  
 215 220  
 Asp Gln Trp Val Gln Asp Lys Ile Thr Gln Met Lys Tyr Val Thr 240  
 230 235  
 Asp Val Gly Val Leu Gln Arg His Val Ser Arg His Asn His Arg

245	250	255
Asn Glu Asp Glu	Glu Asn Thr Leu Ser	Val Asp Cys Thr Arg Ile
260	265	270
Ser Phe Glu Tyr	Asp Leu Arg Leu Val	Leu Tyr Gln His Trp Ser
275	280	285
Leu His Asp Ser	Leu Cys Asn Thr Ser	Tyr Thr Ala Ala Arg Phe
290	295	300
Lys Leu Trp Ser	Val His Gly Gln Lys	Arg Leu Gln Glu Phe Leu
305	310	315
Ala Asp Met Gly	Leu Pro Leu Lys Gln	Val Lys Gln Lys Phe Gln
320	325	330
Ala Met Asp Ile	Ser Leu Lys Glu Asn	Leu Arg Glu Met Ile Gln
335	340	345
Glu Ser Ala Asn	Lys Phe Gly Met Lys	Asp Met Arg Val Gln Thr
350	355	360
Phe Ser Ile His	Phe Gly Phe Lys His	Lys Phe Leu Ala Ser Asp
365	370	375
Val Val Phe Ala	Thr Met Ser Leu Met	Glu Ser Pro Glu Lys Asp
380	385	390
Gly Ser Gly Thr	Asp His Phe Ile Gln	Ala Leu Asp Ser Leu Ser
395	400	405
Arg Ser Asn Leu	Asp Lys Leu Tyr His	Gly Leu Glu Leu Ala Lys
410	415	420
Lys Gln Leu Arg	Ala Thr Gln Gln Thr	Ile Ala Ser Cys Leu Cys
425	430	435
Thr Asn Leu Val	Ile Ser Gln Gly Pro	Phe Leu Tyr Cys Ser Leu
440	445	450
Met Glu Gly Thr	Pro Asp Val Met Leu	Phe Ser Arg Pro Ala Ser
455	460	465
Leu Ser Leu Leu	Ser Lys His Leu Leu	Lys Ser Phe Val Cys Ser
470	475	480
Thr Lys Asn Arg	Arg Cys Lys Leu Leu	Pro Leu Val Met Ala Ala
485	490	495
Pro Leu Ser Met	Glu His Gly Thr Val	Thr Val Val Gly Ile Pro
500	505	510
Pro Glu Thr Asp	Ser Ser Asp Arg Lys	Asn Phe Phe Gly Arg Ala
515	520	525
Phe Glu Lys Ala	Ala Glu Ser Thr Ser	Ser Arg Met Leu His Asn
530	535	540
His Phe Asp Leu	Ser Val Ile Glu Leu	Lys Ala Glu Asp Arg Ser
545	550	555
Lys Phe Leu Asp	Ala Leu Ile Ser Leu	Leu Ser

```
<210> 42
<211> 380
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> unsure
<222> 44, 118, 172, 183
<223> unknown base
```

```
<400> 42
gtacctcagc gcgagcgcca ggcgtccggc cgcgtggct atgntcgtgt 50
ccgatttccg caaagagttc tacgaggtgg tccagagcca gagggtcctt 100
ctcttcgtgg cctcggangt ggatgctctg tgtgcgtgca agatccttca 150
ggccttggtc cagtgtgacc angtgcaata tangctgggt ccagtttctg 200
ggtggcaaga acttgaaact gcatttcttg agcataaga acagtttcat 250
tattttatco tcataaaact tggagctaat gtacacctat tggatattct 300
tcaacctgat gaagacacta tattcttgtg gtgtgacacc cataggccag 350
tcaatgttgt caatgtatac aacgataccc 380
```

```
<210> 43
<211> 25
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Synthetic oligonucleotide probe

<400> 43  
ttccgcaaag agttctacga ggtgg 25

```
<210> 44
<211> 26
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Synthetic oligonucleotide probe

```
<400> 44
attgacaaca ttgactggcc tatggg 26
```

```
<210> 45
<211> 50
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Synthetic oligonucleotide probe

<400> 45  
gtggatgctc tgtgtgcgtg caagatcctt caggccttgt tccagtgtga 50

&lt;210&gt; 46

<211> 3089  
<212> DNA  
<213> Homo sapiens

<400> 46  
caggaaccct ctctttgggt ctggattggg acccctttcc agtaccattt 50  
tttctagtga accacgaagg gacgatacca gaaaacaccc tcaacccaaa 100  
ggaaatagac tacagcccca attggctgac ttggctata gaaaaagaa 150  
aggaacgaaa agagacagtt ttttttgaa agctaagtct tccctttatc 200  
gagtaagaaa accccccctt ctgagctat ttacagcttt taacaattga 250  
gtaaagtacg ctccggtcac catggtgaca gccgccctgg gtcccgtctg 300  
ggcagcgctc ctgctcttct tctgatgtg tgagatccgt atgggtggagc 350  
tcacctttga cagagctgtg gccagcggct gccaacgggt ctgtgactct 400  
gaggaccccc tggatcctgc ccattgtatcc tcagcctctt cctccggcgc 450  
ccccacgcc ctgcctgaga tcagacccta cattaatatc accatcctga 500  
aggggtgaca aggggaccca ggcccaatgg gcctgccagg gtacatgggc 550  
agggaggggt cccaagggga gcctggccct cagggcagca agggtgacaa 600  
gggggagatg ggagccccc gcgccccgtg ccagaagcgc ttcttcgcct 650  
tctcagtggt ccgcaagacg gccctgcaca gcggcgagga cttccagacg 700  
ctgctcttcg aaagggtctt tgtgaacctt gatgggtgct ttgacatggc 750  
gaccggccag tttgctgctc ccctgcgtgg catctacttc ttcagcctca 800  
atgtgcacag ctggaattac aaggagacgt acgtgcacat tatgcataac 850  
cagaaagagg ctgtcatcct gtacgcgcag ccagcgcagc gcagcatcat 900  
gcagagccag agtgtgatgc tggacctggc ctacggggag cgcgtctggg 950  
tgccgtctct caagcgccag cgcgagaacg ccattctacg caacgacttc 1000  
gacacctaca tcaccttcag cggccacctc atcaaggccg aggcagactg 1050  
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Ser	Cys	Phe	Ala	Asn	Asn	Thr	Pro	Leu	Glu	His	Leu	Asp	Leu	Ser	
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Gln Asn Leu Leu	Gln His Lys Asn Asp	Glu Asn Cys Ser Trp	Pro
410	415	420	
Glu Thr Val Val	Asn Met Asn Leu Ser	Tyr Asn Lys Leu Ser	Asp
425	430	435	
Ser Val Phe Arg	Cys Leu Pro Lys Ser	Ile Gln Ile Leu Asp	Leu
440	445	450	
Asn Asn Asn Gln	Ile Gln Thr Val Pro	Lys Glu Thr Ile His	Leu
455	460	465	
Met Ala Leu Arg	Glu Leu Asn Ile Ala	Phe Asn Phe Leu Thr	Asp
470	475	480	
Leu Pro Gly Cys	Ser His Phe Ser Arg	Leu Ser Val Leu Asn	Ile
485	490	495	
Glu Met Asn Phe	Ile Leu Ser Pro Ser	Leu Asp Phe Val Gln	Ser
500	505	510	
Cys Gln Glu Val	Lys Thr Leu Asn Ala	Gly Arg Asn Pro Phe	Arg
515	520	525	
Cys Thr Cys Glu	Leu Lys Asn Phe Ile	Gln Leu Glu Thr Tyr	Ser
530	535	540	
Glu Val Met Met	Val Gly Trp Ser Asp	Ser Tyr Thr Cys Glu	Tyr
545	550	555	
Pro Leu Asn Leu	Arg Gly Thr Arg Leu	Lys Asp Val His Leu	His
560	565	570	
Glu Leu Ser Cys	Asn Thr Ala Leu Leu	Ile Val Thr Ile Val	Val
575	580	585	
Ile Met Leu Val	Leu Gly Leu Ala Val	Ala Phe Cys Cys Leu	His
590	595	600	
Phe Asp Leu Pro	Trp Tyr Leu Arg Met	Leu Gly Gln Cys Thr	Gln
605	610	615	
Thr Trp His Arg	Val Arg Lys Thr Thr	Gln Glu Gln Leu Lys	Arg
620	625	630	
Asn Val Arg Phe	His Ala Phe Ile Ser	Tyr Ser Glu His Asp	Ser
635	640	645	
Leu Trp Val Lys	Asn Glu Leu Ile Pro	Asn Leu Glu Lys Glu	Asp
650	655	660	
Gly Ser Ile Leu	Ile Cys Leu Tyr Glu	Ser Tyr Phe Asp Pro	Gly
665	670	675	
Lys Ser Ile Ser	Glu Asn Ile Val Ser	Phe Ile Glu Lys Ser	Tyr
680	685	690	
Lys Ser Ile Phe	Val Leu Ser Pro Asn	Phe Val Gln Asn Glu	Trp
695	700	705	
Cys His Tyr Glu	Phe Tyr Phe Ala His	His Asn Leu Phe His	Glu
710	715	720	



Asn Ser Asp His Ile Ile Leu Ile Leu Leu Glu Pro Ile Pro Phe  
 725 730 735  
 Tyr Cys Ile Pro Thr Arg Tyr His Lys Leu Lys Ala Leu Leu Glu  
 740 745 750  
 Lys Lys Ala Tyr Leu Glu Trp Pro Lys Asp Arg Arg Lys Cys Gly  
 755 760 765  
 Leu Phe Trp Ala Asn Leu Arg Ala Ala Ile Asn Val Asn Val Leu  
 770 775 780  
 Ala Thr Arg Glu Met Tyr Glu Leu Gln Thr Phe Thr Glu Leu Asn  
 785 790 795  
 Glu Glu Ser Arg Gly Ser Thr Ile Ser Leu Met Arg Thr Asp Cys  
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Leu

<210> 58  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 58  
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<210> 59  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 59  
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<210> 60  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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<400> 60  
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<210> 61  
 <211> 3772  
 <212> DNA  
 <213> Homo sapiens

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ccccccgcgc cccgccccgc gcctctgcgc gccctgtcc gccccggccc 150  
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 ccagcttctg cgccccgcgc ccgcccggcgc ccccgggtga ccgtgacctc 300  
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 ccgggagccc tactacgcgc gccgggagcc cgagctcgag accttctctc 500  
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 acaataaat tctgtgttct tttgacaata gcgtcattgc caagtgcaca 3150  
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 aataagcaa atggtgaagc ccttaaaaaa aaaaaaaaaa aaaaaaaaaa 3750  
 aaaaaaaaaa aaaaaaaaaa aa 3772

<210> 62  
 <211> 756  
 <212> PRT  
 <213> Homo sapiens

<400> 62  
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 Leu Ala Val Thr Leu Ala Gly Val Gly Ala Gln Gly Ala Ala Leu  
 20 25 30  
 Glu Asp Pro Asp Tyr Tyr Gly Gln Glu Ile Trp Ser Arg Glu Pro  
 35 40 45  
 Tyr Tyr Ala Arg Pro Glu Pro Glu Leu Glu Thr Phe Ser Pro Pro  
 50 55 60  
 Leu Pro Ala Gly Pro Gly Glu Glu Trp Glu Arg Arg Pro Gln Glu  
 65 70 75  
 Pro Arg Pro Pro Lys Arg Ala Thr Lys Pro Lys Lys Ala Pro Lys  
 80 85 90  
 Arg Glu Lys Ser Ala Pro Glu Pro Pro Pro Gly Lys His Ser  
 95 100 105  
 Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala Ala Asn  
 110 115 120  
 Asp Asp His Ser Val Arg Val Ala Arg Glu Asp Val Arg Glu Ser  
 125 130 135  
 Cys Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln  
 140 145 150  
 Leu His Ala Ser Thr Val Lys Arg Tyr Gly Leu Gly Ala His Arg  
 155 160 165  
 Gly Arg Leu Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr  
 170 175 180  
 Asp Gly Ala Trp Cys Ala Gly Arg Asn Asp Leu Gln Gln Trp Ile

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Glu	Val	Asp	Ala	Arg	Arg	Leu	Thr	Arg	Phe	Thr	Gly	Val	Ile	Thr																		
				200					205					210																		
Gln	Gly	Arg	Asn	Ser	Leu	Trp	Leu	Ser	Asp	Trp	Val	Thr	Ser	Tyr																		
				215					220					225																		
Lys	Val	Met	Val	Ser	Asn	Asp	Ser	His	Thr	Trp	Val	Thr	Val	Lys																		
				230					235					240																		
Asn	Gly	Ser	Gly	Asp	Met	Ile	Phe	Glu	Gly	Asn	Ser	Glu	Lys	Glu																		
				245					250					255																		
Ile	Pro	Val	Leu	Asn	Glu	Leu	Pro	Val	Pro	Met	Val	Ala	Arg	Tyr																		
				260					265					270																		
Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe	Asp	Asn	Gly	Ser	Ile	Cys																		
				275					280					285																		
Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	Leu	Pro	Asp	Pro	Asn	Asn																		
				290					295					300																		
Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	Thr	Asp	Asp	Leu	Asp																		
				305					310					315																		
Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Leu	Met	Lys	Val																		
				320					325					330																		
Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile	Gly																		
				335					340					345																		
Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp																		
				350					355					360																		
His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile																		
				365					370					375																		
Ala	Gly	Ala	His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu																		
				380					385																							

500	505	510
Val Leu Gly Gly Asn Leu Gln Gly Gly	Glu Leu Val Val Ala Tyr	
515	520	525
Pro Tyr Asp Leu Val Arg Ser Pro Trp	Lys Thr Gln Glu His Thr	
530	535	540
Pro Thr Pro Asp Asp His Val Phe Arg	Trp Leu Ala Tyr Ser Tyr	
545	550	555
Ala Ser Thr His Arg Leu Met Thr Asp	Ala Arg Arg Arg Val Cys	
560	565	570
His Thr Glu Asp Phe Gln Lys Glu Glu	Gly Thr Val Asn Gly Ala	
575	580	585
Ser Trp His Thr Val Ala Gly Ser Leu	Asn Asp Phe Ser Tyr Leu	
590	595	600
His Thr Asn Cys Phe Glu Leu Ser Ile	Tyr Val Gly Cys Asp Lys	
605	610	615
Tyr Pro His Glu Ser Gln Leu Pro Glu	Glu Trp Glu Asn Asn Arg	
620	625	630
Glu Ser Leu Ile Val Phe Met Glu Gln	Val His Arg Gly Ile Lys	
635	640	645
Gly Leu Val Arg Asp Ser His Gly Lys	Gly Ile Pro Asn Ala Ile	
650	655	660
Ile Ser Val Glu Gly Ile Asn His Asp	Ile Arg Thr Ala Asn Asp	
665	670	675
Gly Asp Tyr Trp Arg Leu Leu Asn Pro	Gly Glu Tyr Val Val Thr	
680	685	690
Ala Lys Ala Glu Gly Phe Thr Ala Ser	Thr Lys Asn Cys Met Val	
695	700	705
Gly Tyr Asp Met Gly Ala Thr Arg Cys	Asp Phe Thr Leu Ser Lys	
710	715	720
Thr Asn Met Ala Arg Ile Arg Glu Ile	Met Glu Lys Phe Gly Lys	
725	730	735
Gln Pro Val Ser Leu Pro Ala Arg Arg	Leu Lys Leu Arg Gly Arg	
740	745	750
Lys Arg Arg Gln Arg Gly		
755		

<210> 63  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 63  
 gttctcaatg agctaccggt cccc 24

<210> 64  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 64  
cgcgatgtag tggaactcgg gctc 24

<210> 65  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 65  
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<210> 66  
<211> 2854  
<212> DNA  
<213> Homo sapiens

<400> 66  
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cccagccccc gcttcagctc ttccacaggt gttgactcca gctccagctt 150  
cagctccagc tccaggtcgg gctccagctc cagccgcagc ttaggcagcg 200  
gagggtctgt gtcccagttg ttttccaatt tcaccggctc cgtggatgac 250  
cgtgggacct gccagtgtc tgtttccctg ccagacacca cctttcccg 300  
ggacagagtg gaacgcttgg aattcacagc tcatgttctt tctcagaagt 350  
ttgagaaaga actttctaaa gtgagggaat atgtccaatt aattagtgtg 400  
tatgaaaga aactgttaaa cctaactgtc cgaattgaca tcatggagaa 450  
ggataccatt tcttacctg aactggactt cgagctgac aaggtagaag 500  
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 gcttctaacg ccttcattgt atgtgggggt ctgtatgcc cccgtactat 1350  
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aaaataaatg attaaaatgt gctttgaaaa aaaaaaaaaa aaaaaaaaaa 2850  
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<210> 67  
<211> 510  
<212> PRT  
<213> Homo sapiens

<400> 67  
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Ser Pro Gly Phe Ser Ser Phe Pro Gly Val Asp Ser Ser Ser Ser  
35 40 45  
Phe Ser Ser Ser Ser Arg Ser Gly Ser Ser Ser Ser Arg Ser Leu  
50 55 60  
Gly Ser Gly Gly Ser Val Ser Gln Leu Phe Ser Asn Phe Thr Gly  
65 70 75  
Ser Val Asp Asp Arg Gly Thr Cys Gln Cys Ser Val Ser Leu Pro  
80 85 90  
Asp Thr Thr Phe Pro Val Asp Arg Val Glu Arg Leu Glu Phe Thr  
95 100 105  
Ala His Val Leu Ser Gln Lys Phe Glu Lys Glu Leu Ser Lys Val  
110 115 120  
Arg Glu Tyr Val Gln Leu Ile Ser Val Tyr Glu Lys Lys Leu Leu  
125 130 135  
Asn Leu Thr Val Arg Ile Asp Ile Met Glu Lys Asp Thr Ile Ser  
140 145 150  
Tyr Thr Glu Leu Asp Phe Glu Leu Ile Lys Val Glu Val Lys Glu  
155 160 165  
Met Glu Lys Leu Val Ile Gln Leu Lys Glu Ser Phe Gly Gly Ser  
170 175 180  
Ser Glu Ile Val Asp Gln Leu Glu Val Glu Ile Arg Asn Met Thr  
185 190 195  
Leu Leu Val Glu Lys Leu Glu Thr Leu Asp Lys Asn Asn Val Leu  
200 205 210

Ala	Ile	Arg	Arg	Glu	Ile	Val	Ala	Leu	Lys	Thr	Lys	Leu	Lys	Glu	
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Cys	Glu	Ala	Ser	Lys	Asp	Gln	Asn	Thr	Pro	Val	Val	His	Pro	Pro	
				230					235					240	
Pro	Thr	Pro	Gly	Ser	Cys	Gly	His	Gly	Gly	Val	Val	Asn	Ile	Ser	
				245					250					255	
Lys	Pro	Ser	Val	Val	Gln	Leu	Asn	Trp	Arg	Gly	Phe	Ser	Tyr	Leu	
				260					265					270	
Tyr	Gly	Ala	Trp	Gly	Arg	Asp	Tyr	Ser	Pro	Gln	His	Pro	Asn	Lys	
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Gly	Leu	Tyr	Trp	Val	Ala	Pro	Leu	Asn	Thr	Asp	Gly	Arg	Leu	Leu	
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Glu	Tyr	Tyr	Arg	Leu	Tyr	Asn	Thr	Leu	Asp	Asp	Leu	Leu	Leu	Tyr	
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Ile	Asn	Ala	Arg	Glu	Leu	Arg	Ile	Thr	Tyr	Gly	Gln	Gly	Ser	Gly	
				320					325					330	
Thr	Ala	Val	Tyr	Asn	Asn	Asn	Met	Tyr	Val	Asn	Met	Tyr	Asn	Thr	
				335					340					345	
Gly	Asn	Ile	Ala	Arg	Val	Asn	Leu	Thr	Thr	Asn	Thr	Ile	Ala	Val	
				350					355					360	
Thr	Gln	Thr	Leu	Pro	Asn	Ala	Ala	Tyr	Asn	Asn	Arg	Phe	Ser	Tyr	
				365					370					375	
Ala	Asn	Val	Ala	Trp	Gln	Asp	Ile	Asp	Phe	Ala	Val	Asp	Glu	Asn	
				380					385					390	
Gly	Leu	Trp	Val	Ile	Tyr	Ser	Thr	Glu	Ala	Ser	Thr	Gly	Asn	Met	
				395					400					405	
Val	Ile	Ser	Lys	Leu	Asn	Asp	Thr	Thr	Leu	Gln	Val	Leu	Asn	Thr	
				410					415					420	
Trp	Tyr	Thr	Lys	Gln	Tyr	Lys	Pro	Ser	Ala	Ser	Asn	Ala	Phe	Met	
				425					430					435	
Val	Cys	Gly	Val	Leu	Tyr	Ala	Thr	Arg	Thr	Met	Asn	Thr	Arg	Thr	
				440					445					450	
Glu	Glu	Ile	Phe	Tyr	Tyr	Tyr	Asp	Thr	Asn	Thr	Gly	Lys	Glu	Gly	
				455					460					465	
Lys	Leu	Asp	Ile	Val	Met	His	Lys	Met	Gln	Glu	Lys	Val	Gln	Ser	
				470					475					480	
Ile	Asn	Tyr	Asn	Pro	Phe	Asp	Gln	Lys	Leu	Tyr	Val	Tyr	Asn	Asp	
				485					490					495	
Gly	Tyr	Leu	Leu	Asn	Tyr	Asp	Leu	Ser	Val	Leu	Gln	Lys	Pro	Gln	
				500					505					510	

<210> 68  
 <211> 410  
 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 206, 217, 387

<223> unknown base

<400> 68

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ggtgaacatc agcaaaccgt ctgtgggtca gctcaactgg agagggtttt 150  
cttatctata tgggtcttgg ggtagggtatt actctcccca gcattccaaac 200  
aaagggnatgt attgggnngc gccattgaat acagatggga gactgttgga 250  
gtattataga ctgtacaacc cactggatga ttgtctattg tatataaatg 300  
ctcgagagtt gcggtacacc tatggccaag gtatgggtac agcagtttac 350  
aacaacaaca tgtacgtcaa catgtacaac acogggnata ttgccagagt 400  
taacctgacc 410

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 69

agctgtggtc atgggtggtg ggtg 24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ctaccttggc cataggtgat ccgc 24

<210> 71

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71

catcagcaaa ccgtotgtgg ttcagctcaa ctggagaggg tt 42

<210> 72

<211> 3127

<212> DNA

<213> Homo sapiens

<400> 72  
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tggggctgtg ctccatggcg agctggatac catgtttgtg tggaaagtgc 150  
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 aagataatc atgggttaga aggaagtgtt ttgaaagcca ctttgaaagt 2200  
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 gtgaatggaa tataacaatt cagcttaatt ccccaacctt attctgtgtg 3050  
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<210> 73  
 <211> 453  
 <212> PRT  
 <213> Homo sapiens

<400> 73

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				20					25					30
Ser	Gly	Asn	Asn	Ser	Thr	Val	Thr	Arg	Leu	Ile	Tyr	Ala	Leu	Phe
				35					40					45
Leu	Leu	Val	Gly	Val	Cys	Val	Ala	Cys	Val	Met	Leu	Ile	Pro	Gly
				50					55					60
Met	Glu	Glu	Gln	Leu	Asn	Lys	Ile	Pro	Gly	Phe	Cys	Glu	Asn	Glu
				65					70					75
Lys	Gly	Val	Val	Pro	Cys	Asn	Ile	Leu	Val	Gly	Tyr	Lys	Ala	Val
				80					85					90
Tyr	Arg	Leu	Cys	Phe	Gly	Leu	Ala	Met	Phe	Tyr	Leu	Leu	Leu	Ser
				95					100					105
Leu	Leu	Met	Ile	Lys	Val	Lys	Ser	Ser	Ser	Asp	Pro	Arg	Ala	Ala
				110					115					120
Val	His	Asn	Gly	Phe	Trp	Phe	Phe	Lys	Phe	Ala	Ala	Ala	Ile	Ala
				125					130					135
Ile	Ile	Ile	Gly	Ala	Phe	Phe	Ile	Pro	Glu	Gly	Thr	Phe	Thr	Thr
				140					145					150
Val	Trp	Phe	Tyr	Val	Gly	Met	Ala	Gly	Ala	Phe	Cys	Phe	Ile	Leu
				155					160					165
Ile	Gln	Leu	Val	Leu	Leu	Ile	Asp	Phe	Ala	His	Ser	Trp	Asn	Glu
				170					175					180
Ser	Trp	Val	Glu	Lys	Met	Glu	Glu	Gly	Asn	Ser	Arg	Cys	Trp	Tyr
				185					190					195
Ala	Ala	Leu	Leu	Ser	Ala	Thr	Ala	Leu	Asn	Tyr	Leu	Leu	Ser	Leu
				200					205					210
Val	Ala	Ile	Val	Leu	Phe	Phe	Val	Tyr	Tyr	Thr	His	Pro	Ala	Ser
				215					220					225
Cys	Ser	Glu	Asn	Lys	Ala	Phe	Ile	Ser	Val	Asn	Met	Leu	Leu	Cys
				230					235					240
Val	Gly	Ala	Ser	Val	Met	Ser	Ile	Leu	Pro	Lys	Ile	Gln	Glu	Ser
				245					250					255
Gln	Pro	Arg	Ser	Gly	Leu	Leu	Gln	Ser	Ser	Val	Ile	Thr	Val	Tyr
				260					265					270
Thr	Met	Tyr	Leu	Thr	Trp	Ser	Ala	Met	Thr	Asn	Glu	Pro	Glu	Thr
				275					280					285

Asn Cys Asn Pro Ser Leu Leu Ser Ile Ile Gly Tyr Asn Thr Thr  
 290 295 300  
 Ser Thr Val Pro Lys Glu Gly Gln Ser Val Gln Trp Trp His Ala  
 305 310 315  
 Gln Gly Ile Ile Gly Leu Ile Leu Phe Leu Leu Cys Val Phe Tyr  
 320 325 330  
 Ser Ser Ile Arg Thr Ser Asn Asn Ser Gln Val Asn Lys Leu Thr  
 335 340 345  
 Leu Thr Ser Asp Glu Ser Thr Leu Ile Glu Asp Gly Gly Ala Arg  
 350 355 360  
 Ser Asp Gly Ser Leu Glu Asp Gly Asp Asp Val His Arg Ala Val  
 365 370 375  
 Asp Asn Glu Arg Asp Gly Val Thr Tyr Ser Tyr Ser Phe Phe His  
 380 385 390  
 Phe Met Leu Phe Leu Ala Ser Leu Tyr Ile Met Met Thr Leu Thr  
 395 400 405  
 Asn Trp Ser Arg Tyr Glu Pro Ser Arg Glu Met Lys Ser Gln Trp  
 410 415 420  
 Thr Ala Val Trp Val Lys Ile Ser Ser Ser Trp Ile Gly Ile Val  
 425 430 435  
 Leu Tyr Val Trp Thr Leu Val Ala Pro Leu Val Leu Thr Asn Arg  
 440 445 450  
 Asp Phe Asp

<210> 74  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 48, 163  
 <223> unknown base

<400> 74  
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 ataccatggt tgtgtggaag tgccccgtgt ttgctatgcc gatgtgtgcc 150  
 tagtggaac aantccactg taactagatt gatctatgca cttttcttgc 200  
 ttgttgagat atgtgtagct tgtgtaagt tgataccagg aatggaagaa 250  
 caactgaata agattcctgg attttgtgag aatgagaaa gtgttgtccc 300  
 ttgtaacatt ttggttggtc ataaagctgt atatcgtttg tgccttggtt 350  
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agcagtgatc ctagagctgc agtgcacaat ggattttggt tcttttaaatt 450  
tgctgcagca attgcaatta ttattggggc 480

<210> 75  
<211> 438  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 32, 65, 92, 121, 142, 154, 170, 293, 315, 323  
<223> unknown base

<400> 75  
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tgctgtccta gtggaaacaa ntccactgta attagattga tntatgcact 150  
tttnttgctt gttggagtan gtgtagcttg tgtaatgttg ataccaggaa 200  
tggaagaaca actgaataag attcctggat tttgtgagaa tgagaaaggt 250  
gttgtccctt gtaacatttt gggtggctat aaagctgtat atngttttgtg 300  
ctttggtttg gctangttct atnttcttct ctctttacta atgataaaag 350  
tgaagagtag cagtgatcct agagctgcag tgcacaatgg attttgggtt 400  
tttaaatttg ctgcagcaat tgcaattatt attggggc 438

<210> 76  
<211> 473  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 48  
<223> unknown base

<400> 76  
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gtttgtgtgg aagtgccccg tgtttgctat gccgatgctg tcctagtggg 150  
aacaactcca ctgtaactag attgatctat gcacttttct tgcttgttgg 200  
agtatgtgta gcttgtgtaa tgttgatacc aggaatggaa gaacaactga 250  
ataagatcc tggattttgt gagaatgaga aaggtgttgt cccttgtaac 300  
attttgggtg gctataaagc tgtatatcgt ttgtgctttg gtttggtat 350  
gttctatctt cttctctctt tactaatgat caaagtgaag agtagcagt 400  
atcctagagc tgcagtgcac aatggatttt gggtctttaa atttgctgca 450  
gcaattgcaa ttattattgg ggc 473



<210> 77  
<211> 666  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 21, 111  
<223> unknown base

<400> 77  
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caggattgga ngaacaactg aataagattc ctggattttt gtgagaatga 150  
gaaaggtgtt gtccccctgt aacatttttg gttggctata aagctgtata 200  
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cttcattcca gaaggaactt ttacaactgt gtggttttat gtaggcattg 400  
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<210> 78  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 78  
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<210> 79  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 79  
gtcaacatgc tcctctgc 18

<210> 80  
<211> 26

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 80  
aatccattgt gcaactgcagc tctagg 26

<210> 81  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 81  
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<210> 82  
<211> 54  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 82  
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gcac 54

<210> 83  
<211> 3906  
<212> DNA  
<213> Homo sapiens

<400> 83  
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cgcgaggcctt toggcaaagg cagtcgagtg tttgcagacc gggcgagtc 150  
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 aaacctggt tgctctgaa gaaactgcct tcattgtata tatgtgacta 3800

# 2025 RELEASE UNDER E.O. 14176

&lt;400&gt; 84

81

Pro Asp Lys His Trp	Ile Met Arg Tyr Thr Gly	Pro Met Lys Pro
260	265	270
Ile His Met Glu Phe Thr Asn Met Leu Gln Arg Lys Arg Leu Gln		
275	280	285
Thr Leu Met Ser Val Asp Asp Ser Met Glu Thr Ile Tyr Asn Met		
290	295	300
Leu Val Glu Thr Gly Glu Leu Asp Asn Thr Tyr Ile Val Tyr Thr		
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Ala Asp His Gly Tyr His Ile Gly Gln Phe Gly Leu Val Lys Gly		
320	325	330
Lys Ser Met Pro Tyr Glu Phe Asp Ile Arg Val Pro Phe Tyr Val		
335	340	345
Arg Gly Pro Asn Val Glu Ala Gly Cys Leu Asn Pro His Ile Val		
350	355	360
Leu Asn Ile Asp Leu Ala Pro Thr Ile Leu Asp Ile Ala Gly Leu		
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Asp Ile Pro Ala Asp Met Asp Gly Lys Ser Ile Leu Lys Leu Leu		
380	385	390
Asp Thr Glu Arg Pro Val Asn Arg Phe His Leu Lys Lys Lys Met		
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Arg Val Trp Arg Asp Ser Phe Leu Val Glu Arg Gly Lys Leu Leu		
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His Lys Arg Asp Asn Asp Lys Val Asp Ala Gln Glu Glu Asn Phe		
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Leu Pro Lys Tyr Gln Arg Val Lys Asp Leu Cys Gln Arg Ala Glu		
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Tyr Gln Thr Ala Cys Glu Gln Leu Gly Gln Lys Trp Gln Cys Val		
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Glu Asp Ala Thr Gly Lys Leu Lys Leu His Lys Cys Lys Gly Pro		
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Tyr Lys Leu Ser Leu Ala Gly Arg Arg Lys Lys Leu Phe Lys Lys		
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Lys Tyr Lys Ala Ser Tyr Val Arg Ser Arg Ser Ile Arg Ser Val		
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Ala Ile Glu Val Asp Gly Arg Val Tyr His Val Gly Leu Gly Asp		
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Ala Ala Gln Pro Arg Asn Leu Thr Lys Arg His Trp Pro Gly Ala		
560	565	570

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His	Arg	Cys	Tyr	Ile	Leu	Glu	Asn	Asp	Thr	Val	Gln	Cys	Asp	Leu	
				605					610					615	
Asp	Leu	Tyr	Lys	Ser	Leu	Gln	Ala	Trp	Lys	Asp	His	Lys	Leu	His	
				620					625					630	
Ile	Asp	His	Glu	Ile	Glu	Thr	Leu	Gln	Asn	Lys	Ile	Lys	Asn	Leu	
				635					640					645	
Arg	Glu	Val	Arg	Gly	His	Leu	Lys	Lys	Lys	Arg	Pro	Glu	Glu	Cys	
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Asp	Cys	His	Lys	Ile	Ser	Tyr	His	Thr	Gln	His	Lys	Gly	Arg	Leu	
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Lys	His	Arg	Gly	Ser	Ser	Leu	His	Pro	Phe	Arg	Lys	Gly	Leu	Gln	
				680					685					690	
Glu	Lys	Asp	Lys	Val	Trp	Leu	Leu	Arg	Glu	Gln	Lys	Arg	Lys	Lys	
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				710					715					720	
Ser	Met	Pro	Gly	Leu	Thr	Cys	Phe	Thr	His	Asp	Asn	Gln	His	Trp	
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Gln	Thr	Ala	Pro	Phe	Trp	Thr	Leu	Gly	Pro	Phe	Cys	Ala	Cys	Thr	
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Thr	His	Asn	Phe	Leu	Phe	Cys	Glu	Phe	Ala	Thr	Gly	Phe	Leu	Glu	
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Tyr	Phe	Asp	Leu	Asn	Thr	Asp	Pro	Tyr	Gln	Leu	Met	Asn	Ala	Val	
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Asn	Thr	Leu	Asp	Arg	Asp	Val	Leu	Asn	Gln	Leu	His	Val	Gln	Leu	
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				815					820					825	
Thr	Arg	Asn	Met	Asp	Leu	Asp	Gly	Gly	Ser	Tyr	Glu	Gln	Tyr	Arg	
				830					835					840	
Gln	Phe	Gln	Arg	Arg	Lys	Trp	Pro	Glu	Met	Lys	Arg	Pro	Ser	Ser	
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<210> 93  
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<212> DNA  
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tgggcctcct ggggagcaca gccctcgtgg gatggatcac aggtgctgct 150  
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 <211> 115  
 <212> PRT  
 <213> Homo sapiens

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 Cys Leu Phe His Gly Arg Gln Asp Cys Asp Val Glu Arg Asn Arg  
 35 40 45  
 Thr Ala Ala Gly Gly Asn Arg Val Arg Arg Ala Gln Pro Trp Pro  
 50 55 60  
 Phe Arg Arg Arg Gly His Leu Gly Ile Phe His His His Arg His  
 65 70 75  
 Pro Gly His Val Ser His Val Pro Asn Val Gly Leu His His His  
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 His His Pro Arg His Thr Pro His His Leu His His His His His  
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 <212> DNA  
 <213> Homo sapiens

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 aagtgagtgc tgggtcacc ccatccgca acgtcactgt ggcctacaag 200  
 ttccacatgg ggctctatgg tgagactggg cggtctttta ctgagagctg 250  
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 aaaaaaaaa aa 1312

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 <213> Homo sapiens

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 35 40 45  
 Val Thr Val Ala Tyr Lys Phe His Met Gly Leu Tyr Gly Glu Thr  
 50 55 60  
 Gly Arg Leu Phe Thr Glu Ser Cys Ser Ile Ser Pro Lys Leu Arg  
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Ser Ile Ala Val Tyr Tyr Asp Asn Pro His Met Val Pro Pro Asp  
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 Lys Cys Arg Cys Ala Val Gly Ser Ile Leu Ser Glu Gly Glu Glu  
 95 100 105  
 Ser Pro Ser Pro Glu Leu Ile Asp Leu Tyr Gln Lys Phe Gly Phe  
 110 115 120  
 Lys Val Phe Ser Phe Pro Ala Pro Ser His Val Val Thr Ala Thr  
 125 130 135  
 Phe Pro Tyr Thr Thr Ile Leu Ser Ile Trp Leu Ala Thr Arg Arg  
 140 145 150  
 Val His Pro Ala Leu Asp Thr Tyr Ile Lys Glu Arg Lys Leu Cys  
 155 160 165  
 Ala Tyr Pro Arg Leu Glu Ile Tyr Gln Glu Asp Gln Ile His Phe  
 170 175 180  
 Met Cys Pro Leu Ala Arg Gln Gly Asp Phe Tyr Val Pro Glu Met  
 185 190 195  
 Lys Glu Thr Glu Trp Lys Trp Arg Gly Leu Val Glu Ala Ile Asp  
 200 205 210  
 Thr Gln Val Asp Gly Thr Gly Ala Asp Thr Met Ser Asp Thr Ser  
 215 220 225  
 Ser Val Ser Leu Glu Val Ser Pro Gly Ser Arg Glu Thr Ser Ala  
 230 235 240  
 Ala Thr Leu Ser Pro Gly Ala Ser Ser Arg Gly Trp Asp Asp Gly  
 245 250 255  
 Asp Thr Arg Ser Glu His Ser Tyr Ser Glu Ser Gly Ala Ser Gly  
 260 265 270  
 Ser Ser Phe Glu Glu Leu Asp Leu Glu Gly Glu Gly Pro Leu Gly  
 275 280 285  
 Glu Ser Arg Leu Asp Pro Gly Thr Glu Pro Leu Gly Thr Thr Lys  
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<210> 98  
 <211> 725  
 <212> DNA  
 <213> Homo sapiens

<400> 98  
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 cccgtccat ctgctgctgc tgcgtgctgt cagtgcggcg gtgtgccggg 150  
 ctgaggtctg gctcgaaacc gaaagtccc tccggaccct ccaagtgagg 200  
 accctgggtg agccccaga accatgtgcc gagcccgctg cttttggaga 250

cacgcttcac atacactaca cggaagcgtt ggtagatgga cgtattattg 300  
 acacctccct gaccagagac cctctgggta tagaacttgg ccaaagcag 350  
 gtgattccag gtctggagca gagtcttctc gacatgtgtg tgggagagaa 400  
 gcgaaggcca atcattcctt ctcaactggc ctatggaaaa cggggatttc 450  
 caccatctgt cccagcggat gcagtgggtgc agtatgacgt ggagctgatt 500  
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 acctatacag aaaggccaat agacccaaag tctccaaaaa gaagctcaag 650  
 gaagagaaac gaaacaagag caaaaagaaa taataataa taaattttaa 700  
 aaaacttaaa aaaaaaaaaa aaaaa 725

<210> 99  
 <211> 201  
 <212> PRT  
 <213> Homo sapiens

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 Thr Glu Ser Pro Val Arg Thr Leu Gln Val Glu Thr Leu Val Glu  
 35 40 45  
 Pro Pro Glu Pro Cys Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu  
 50 55 60  
 His Ile His Tyr Thr Gly Ser Leu Val Asp Gly Arg Ile Ile Asp  
 65 70 75  
 Thr Ser Leu Thr Arg Asp Pro Leu Val Ile Glu Leu Gly Gln Lys  
 80 85 90  
 Gln Val Ile Pro Gly Leu Glu Gln Ser Leu Leu Asp Met Cys Val  
 95 100 105  
 Gly Glu Lys Arg Arg Ala Ile Ile Pro Ser His Leu Ala Tyr Gly  
 110 115 120  
 Lys Arg Gly Phe Pro Pro Ser Val Pro Ala Asp Ala Val Val Gln  
 125 130 135  
 Tyr Asp Val Glu Leu Ile Ala Leu Ile Arg Ala Asn Tyr Trp Leu  
 140 145 150  
 Lys Leu Val Lys Gly Ile Leu Pro Leu Val Gly Met Ala Met Val  
 155 160 165  
 Pro Ala Leu Leu Gly Leu Ile Gly Tyr His Leu Tyr Arg Lys Ala  
 170 175 180  
 Asn Arg Pro Lys Val Ser Lys Lys Lys Leu Lys Glu Glu Lys Arg

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<210> 100  
<211> 705  
<212> DNA  
<213> Homo sapiens

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cgctccatct gctgctgctg ctgctgctca gtgcggcggt gtgcggggt 150  
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cgctccacat acactacacg ggaagcttgg tagatggagc tattattgac 300  
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gaagggcaat cattccttct cacttggcct atggaaaagc gggatttcca 450  
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tatacagaaa ggccaataga cccaaagtct ccaaaaagaa gctcaaggaa 650  
gagaaacgaa acaagagcaa aaagaaataa taaataataa attttaaaaa 700  
actta 705

<210> 101  
<211> 543  
<212> DNA  
<213> Homo sapiens

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gaaccatgtg ccgagccgcg tgccttttga gacacgcttc acatacacta 100  
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accctctggt tatagaactt ggccaaaagc aggtgattcc aggtctggag 200  
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 agcaaaaaga aataataaat aataaatttt aaaaaactta aaa 543

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 <211> 1316  
 <212> DNA  
 <213> Homo sapiens

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 gagggcttga gatgctcaga atgcattgac tggggggaaa agcgcaatac 200  
 tattgcttcc attgctgctg gtgtactatt ttttacaggc tgggtggatta 250  
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 taccatgcct gtggtgttat agcaaccata gccttcttaa tgattaatgc 350  
 agtatcgaat ggacaagtcc gaggtgatag ttacagtga ggtgtctg 400  
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 tcatcttttt tggagggtcg gtttttaagt ttggccgcac tgaagactta 600  
 tggcagtga ccatctgat tcccacagc acaacagccc tgcattgggt 650  
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 taacttataa aatgttagag gaaactttca catgaataat tttgtcaaa 850  
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 atggatttgt caatgtaagt atttgcata tctgaggtcc aaaaccacaa 950  
 tgaaagtgtc ctgaagattt aatgtgttta ttcaaatgtg gtctctctcg 1000  
 tgtcaaatgt taaatgaaat ataaacattt tttagttttt aaaatattcc 1050  
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 tctgtgaaca tgtaatgtaa ctggcctttg aggtctctcc aagggtgtgag 1150  
 tggacgtgtt ggaagagaga agcaccatgg tccagccacc aggtctccctg 1200  
 tgtcccttcc atgggaaggt ctccgctgt gccctctcatt ccaagggcag 1250  
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tccacatcca ccaactg 1316

<210> 103

<211> 157

<212> PRT

<213> Homo sapiens

<400> 103

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Trp Gly Glu Lys Arg Asn Thr Ile Ala Ser Ile Ala Ala Gly Val  
20 25 30

Leu Phe Phe Thr Gly Trp Trp Ile Ile Ile Asp Ala Ala Val Ile  
35 40 45

Tyr Pro Thr Met Lys Asp Phe Asn His Ser Tyr His Ala Cys Gly  
50 55 60

Val Ile Ala Thr Ile Ala Phe Leu Met Ile Asn Ala Val Ser Asn  
65 70 75

Gly Gln Val Arg Gly Asp Ser Tyr Ser Glu Gly Cys Leu Gly Gln  
80 85 90

Thr Gly Ala Arg Ile Trp Leu Phe Val Gly Phe Met Leu Ala Phe  
95 100 105

Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Gly Tyr Val  
110 115 120

Ala Lys Glu Lys Asp Ile Val Tyr Pro Gly Ile Ala Val Phe Phe  
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Gln Asn Ala Phe Ile Phe Phe Gly Gly Leu Val Phe Lys Phe Gly  
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Arg Thr Glu Asp Leu Trp Gln  
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<210> 104

<211> 545

<212> DNA

<213> Homo sapiens

<400> 104

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agcgcaatac tattgtcttc attgctgctg gtgtactatt ttttacaggc 200

tgggtgatta tcatagatgc agctgttatt tatccacca tgaaagattt 250

caaccactca taccatgcct gtgggttat agcaaccata gccctcctaa 300

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ggttgtctgg gtcaaacagg tgctcgcat tggcttttcg ttggtttcat 400



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<210> 105  
 <211> 490  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 31, 39, 108, 145, 179, 219, 412, 479  
 <223> unknown base

<400> 105  
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<210> 106  
 <211> 466  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 26, 38, 81, 115, 207, 329, 380, 446, 449  
 <223> unknown base

<400> 106  
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 acaggggtgt ggattatcat agatgcagct gttatttato ccacatgaa 200  
 agatttnaac cactcatacc atgcctgtgg tggttatagca accatagcct 250  
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 agtgaagggt gtttgggtca aacagggtgt cgcatttggc ttttcgttgg 350  
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**Chilodactylidae**

tg 552

<210> 109  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

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<210> 110  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

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<210> 111  
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<212> DNA  
<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

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<212> DNA  
<213> Homo sapiens

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<210> 113  
 <211> 610  
 <212> PRT  
 <213> Homo sapiens

<400> 113  
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 Asn Pro Phe Ser Glu Asp Val Lys Arg Pro Pro Ala Pro Leu Val  
 35 40 45  
 Thr Asp Lys Glu Ala Arg Lys Lys Val Leu Lys Gln Ala Phe Ser  
 50 55 60  
 Ala Asn Gln Val Pro Glu Lys Leu Asp Val Val Val Ile Gly Ser  
 65 70 75  
 Gly Phe Gly Gly Leu Ala Ala Ala Ala Ile Leu Ala Lys Ala Gly  
 80 85 90  
 Lys Arg Val Leu Val Leu Glu Gln His Thr Lys Ala Gly Gly Cys  
 95 100 105



Glu	Arg	Tyr	Val	Ser	Met	Pro	Arg	Glu	Glu	Ala	Ala	Glu	His	Ile
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Pro	Leu	Leu	Phe	Phe	Ala	Phe	Pro	Ser	Ala	Lys	Asp	Pro	Thr	Trp
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Glu	Asp	Arg	Phe	Pro	Gly	Arg	Ser	Thr	Met	Ile	Met	Leu	Ile	Pro
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Thr	Ala	Tyr	Glu	Trp	Phe	Glu	Glu	Trp	Gln	Ala	Glu	Leu	Lys	Gly
				470					475					480
Lys	Arg	Gly	Ser	Asp	Tyr	Glu	Thr	Phe	Lys	Asn	Ser	Phe	Val	Glu
				485					490					495
Ala	Ser	Met	Ser	Val	Val	Leu	Lys	Leu	Phe	Pro	Gln	Leu	Glu	Gly
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Lys	Val	Glu	Ser	Val	Thr	Ala	Gly	Ser	Pro	Leu	Thr	Asn	Gln	Phe
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Tyr	Leu	Ala	Ala	Pro	Arg	Gly	Ala	Cys	Tyr	Gly	Ala	Asp	His	Asp
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Leu	Gly	Arg	Leu	His	Pro	Cys	Val	Met	Ala	Ser	Leu	Arg	Ala	Gln
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Ser	Pro	Ile	Pro	Asn	Leu	Tyr	Leu	Thr	Gly	Gln	Asp	Ile	Phe	Thr
				560					565					570
Cys	Gly	Leu	Val	Gly	Ala	Leu	Gln	Gly	Ala	Leu	Leu	Cys	Ser	Ser
				575					580					585
Ala	Ile	Leu	Lys	Arg	Asn	Leu	Tyr	Ser	Asp	Leu	Lys	Asn	Leu	Asp
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<210> 114  
 <211> 1701  
 <212> DNA  
 <213> Homo sapiens

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<210> 115  
 <211> 301  
 <212> PRT  
 <213> Homo sapiens

<400> 115  
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 20 25 30



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Lys Asp His Thr	Thr Ala Gly Arg Val	Val Ala Gly Gln Ile Phe
50	55	60
Leu Asp Ser Glu	Glu Ser Glu Leu Glu Ser	Ser Ile Gln Glu Glu
65	70	75
Glu Asp Ser Leu	Lys Ser Gln Glu Gly	Glu Ser Val Thr Glu Asp
80	85	90
Ile Ser Phe Leu	Glu Ser Pro Asn Pro	Glu Asn Lys Asp Tyr Glu
95	100	105
Glu Pro Lys Lys	Val Arg Lys Pro Ala	Leu Thr Ala Ile Glu Gly
110	115	120
Thr Ala His Gly	Glu Pro Cys His Phe	Pro Phe Leu Phe Leu Asp
125	130	135
Lys Glu Tyr Asp	Glu Cys Thr Ser Asp	Gly Arg Glu Asp Gly Arg
140	145	150
Leu Trp Cys Ala	Thr Thr Tyr Asp Tyr	Lys Ala Asp Glu Lys Trp
155	160	165
Gly Phe Cys Glu	Thr Glu Glu Glu Ala	Ala Lys Arg Arg Gln Met
170	175	180
Gln Glu Ala Glu	Met Met Tyr Gln Thr	Gly Met Lys Ile Leu Asn
185	190	195
Gly Ser Asn Lys	Lys Ser Gln Lys Arg	Glu Ala Tyr Arg Tyr Leu
200	205	210
Gln Lys Ala Ala	Ser Met Asn His Thr	Lys Ala Leu Glu Arg Val
215	220	225
Ser Tyr Ala Leu	Leu Phe Gly Asp Tyr	Leu Pro Gln Asn Ile Gln
230	235	240
Ala Ala Arg Glu	Met Phe Glu Lys Leu	Thr Glu Glu Gly Ser Pro
245	250	255
Lys Gly Gln Thr	Ala Leu Gly Phe Leu	Tyr Ala Ser Gly Leu Gly
260	265	270
Val Asn Ser Ser	Gln Ala Lys Ala Leu	Val Tyr Tyr Thr Phe Gly
275	280	285
Ala Leu Gly Gly	Asn Leu Ile Ala His	Met Val Leu Val Ser Arg
290	295	300

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<210> 116  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens  
 <400> 116

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<210> 117  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
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 His Val Thr Ile Arg 50 Asp Tyr Gly Val Ser Trp Tyr Gln Gln Arg 60  
 50  
 Ala Gly Ser Ala Pro Arg Tyr Leu Leu Tyr Tyr Arg Ser Glu Glu 75  
 65  
 Asp His His Arg Pro Ala Asp Ile Pro Asp Arg Phe Ser Ala Ala 90  
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 Lys Asp Glu Ala His Asn Ala Cys Val Leu Thr Ile Ser Pro Val 105  
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 Gln Pro Glu Asp Asp Ala Asp Tyr Tyr Cys Ser Val Gly Tyr Gly 120  
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Phe Ser Pro

<210> 118  
 <211> 3402  
 <212> DNA  
 <213> Homo sapiens

<400> 118

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 <212> PRT  
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 35 40 45  
 Thr Val Arg Leu Gln Cys Pro Val Glu Gly Asp Pro Pro Pro Leu  
 50 55 60  
 Thr Met Trp Thr Lys Asp Gly Arg Thr Ile His Ser Gly Trp Ser  
 65 70 75  
 Arg Phe Arg Val Leu Pro Gln Gly Leu Lys Val Lys Gln Val Glu  
 80 85 90  
 Arg Glu Asp Ala Gly Val Tyr Val Cys Lys Ala Thr Asn Gly Phe  
 95 100 105  
 Gly Ser Leu Ser Val Asn Tyr Thr Leu Val Val Leu Asp Asp Ile  
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 Ser Pro Gly Lys Glu Ser Leu Gly Pro Asp Ser Ser Ser Gly Gly  
 125 130 135  
 Gln Glu Asp Pro Ala Ser Gln Gln Trp Ala Arg Pro Arg Phe Thr  
 140 145 150  
 Gln Pro Ser Lys Met Arg Arg Arg Val Ile Ala Arg Pro Val Gly  
 155 160 165  
 Ser Ser Val Arg Leu Lys Cys Val Ala Ser Gly His Pro Arg Pro  
 170 175 180  
 Asp Ile Thr Trp Met Lys Asp Asp Gln Ala Leu Thr Arg Pro Glu  
 185 190 195  
 Ala Ala Glu Pro Arg Lys Lys Lys Trp Thr Leu Ser Leu Lys Asn  
 200 205 210  
 Leu Arg Pro Glu Asp Ser Gly Lys Tyr Thr Cys Arg Val Ser Asn  
 215 220 225  
 Arg Ala Gly Ala Ile Asn Ala Thr Tyr Lys Val Asp Val Ile Gln  
 230 235 240

Arg Thr Arg Ser Lys Pro Val Leu Thr Gly Thr His Pro Val Asn	245	250	255
Thr Thr Val Asp Phe Gly Gly Thr Thr Ser Phe Gln Cys Lys Val	260	265	270
Arg Ser Asp Val Lys Pro Val Ile Gln Trp Leu Lys Arg Val Glu	275	280	285
Tyr Gly Ala Glu Gly Arg His Asn Ser Thr Ile Asp Val Gly Gly	290	295	300
Gln Lys Phe Val Val Leu Pro Thr Gly Asp Val Trp Ser Arg Pro	305	310	315
Asp Gly Ser Tyr Leu Asn Lys Leu Leu Ile Thr Arg Ala Arg Gln	320	325	330
Asp Asp Ala Gly Met Tyr Ile Cys Leu Gly Ala Asn Thr Met Gly	335	340	345
Tyr Ser Phe Arg Ser Ala Phe Leu Thr Val Leu Pro Asp Pro Lys	350	355	360
Pro Pro Gly Pro Pro Val Ala Ser Ser Ser Ser Ala Thr Ser Leu	365	370	375
Pro Trp Pro Val Val Ile Gly Ile Pro Ala Gly Ala Val Phe Ile	380	385	390
Leu Gly Thr Leu Leu Leu Trp Leu Cys Gln Ala Gln Lys Lys Pro	395	400	405
Cys Thr Pro Ala Pro Ala Pro Pro Leu Pro Gly His Arg Pro Pro	410	415	420
Gly Thr Ala Arg Asp Arg Ser Gly Asp Lys Asp Leu Pro Ser Leu	425	430	435
Ala Ala Leu Ser Ala Gly Pro Gly Val Gly Leu Cys Glu Glu His	440	445	450
Gly Ser Pro Ala Ala Pro Gln His Leu Leu Gly Pro Gly Pro Val	455	460	465
Ala Gly Pro Lys Leu Tyr Pro Lys Leu Tyr Thr Asp Ile His Thr	470	475	480
His Thr His Thr His Ser His Thr His Ser His Val Glu Gly Lys	485	490	495
Val His Gln His Ile His Tyr Gln Cys	500		

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<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 120

**00000768**

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<213> Artificial Sequence
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<212> DNA
<213> Homo sapiens
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 <212> PRT  
 <213> Homo sapiens

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 35 40 45  
 Pro Ala Asp Thr Leu Glu Ser Pro Gly Glu Trp Thr Thr Trp Phe  
 50 55 60  
 Asn Ile Asp Tyr Pro Gly Gly Lys Gly Asp Tyr Glu Arg Leu Asp  
 65 70 75  
 Ala Ile Arg Phe Tyr Tyr Gly Asp Arg Val Cys Ala Arg Pro Leu  
 80 85 90  
 Arg Leu Glu Ala Arg Thr Thr Asp Trp Thr Pro Ala Gly Ser Thr  
 95 100 105  
 Gly Gln Val Val His Gly Ser Pro Arg Glu Gly Phe Trp Cys Leu  
 110 115 120  
 Asn Arg Glu Gln Arg Pro Gly Gln Asn Cys Ser Asn Tyr Thr Val  
 125 130 135  
 Arg Phe Leu Cys Pro Pro Gly Ser Leu Arg Arg Asp Thr Glu Arg  
 140 145 150  
 Ile Trp Ser Pro Trp Ser Pro Trp Ser Lys Cys Ser Ala Ala Cys  
 155 160 165  
 Gly Gln Thr Gly Val Gln Thr Arg Thr Arg Ile Cys Leu Ala Glu  
 170 175 180  
 Met Val Ser Leu Cys Ser Glu Ala Ser Glu Glu Gly Gln His Cys  
 185 190 195  
 Met Gly Gln Asp Cys Thr Ala Cys Asp Leu Thr Cys Pro Met Gly  
 200 205 210

Gln Val Asn Ala Asp Cys Asp Ala Cys Met Cys Gln Asp Phe Met	215	220
Leu His Gly Ala Val Ser Leu Pro Gly Gly Ala Pro Ala Ser Gly	230	240
Ala Ala Ile Tyr Leu Leu Thr Lys Thr Pro Lys Leu Leu Thr Gln	245	255
Thr Asp Ser Asp Gly Arg Phe Arg Ile Pro Gly Leu Cys Pro Asp	260	270
Gly Lys Ser Ile Leu Lys Ile Thr Lys Val Lys Phe Ala Pro Ile	275	285
Val Leu Thr Met Pro Lys Thr Ser Leu Lys Ala Ala Thr Ile Lys	290	300
Ala Glu Phe Val Arg Ala Glu Thr Pro Tyr Met Val Met Asn Pro	305	315
Glu Thr Lys Ala Arg Arg Ala Gly Gln Ser Val Ser Leu Cys Cys	320	330
Lys Ala Thr Gly Lys Pro Arg Pro Asp Lys Tyr Phe Trp Tyr His	335	345
Asn Asp Thr Leu Leu Asp Pro Ser Leu Tyr Lys His Glu Ser Lys	350	360
Leu Val Leu Arg Lys Leu Gln Gln His Gln Ala Gly Glu Tyr Phe	365	375
Cys Lys Ala Gln Ser Asp Ala Gly Ala Val Lys Ser Lys Val Ala	380	390
Gln Leu Ile Val Thr Ala Ser Asp Glu Thr Pro Cys Asn Pro Val	395	405
Pro Glu Ser Tyr Leu Ile Arg Leu Pro His Asp Cys Phe Gln Asn	410	420
Ala Thr Asn Ser Phe Tyr Tyr Asp Val Gly Arg Cys Pro Val Lys	425	435
Thr Cys Ala Gly Gln Gln Asp Asn Gly Ile Arg Cys Arg Asp Ala	440	450
Val Gln Asn Cys Cys Gly Ile Ser Lys Thr Glu Glu Arg Glu Ile	455	465
Gln Cys Ser Gly Tyr Thr Leu Pro Thr Lys Val Ala Lys Glu Cys	470	480
Ser Cys Gln Arg Cys Thr Glu Thr Arg Ser Ile Val Arg Gly Arg	485	495
Val Ser Ala Ala Asp Asn Gly Glu Pro Met Arg Phe Gly His Val	500	510
Tyr Met Gly Asn Ser Arg Val Ser Met Thr Gly Tyr Lys Gly Thr	515	520

Phe Thr Leu His Val Pro Gln Asp Thr Glu Arg Leu Val Leu Thr  
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 Phe Val Asp Arg Leu Gln Lys Phe Val Asn Thr Thr Lys Val Leu  
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 Pro Phe Asn Lys Lys Gly Ser Ala Val Phe His Glu Ile Lys Met  
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 Ile Ile Pro Leu Gly Glu Val Val Gly Glu Asp Pro Met Ala Glu  
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 Leu Glu Ile Pro Ser Arg Ser Phe Tyr Arg Gln Asn Gly Glu Pro  
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 Gly Lys Val Lys Val His Leu Asp Ser Thr Gln Val Lys Met Pro  
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 Glu His Ile Ser Thr Val Lys Leu Trp Ser Leu Asn Pro Asp Thr  
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 Arg Cys Phe Val Lys Val Arg Ala Tyr Arg Ser Glu Arg Phe Leu  
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 Phe Cys Asp Asp Gln Ser Pro Asp Ala Tyr Ser Ala Tyr Val Leu  
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845	850	855
Lys Leu Asn Tyr	Arg Arg Thr Asp His	Glu Asp Pro Arg Val Lys
860	865	870
Lys Thr Ala Phe	Gln Ile Ser Met Ala	Lys Pro Arg Pro Asn Ser
875	880	885
Ala Glu Glu Ser	Asn Gly Pro Ile Tyr	Ala Phe Glu Asn Leu Arg
890	895	900
Ala Cys Glu Glu	Ala Pro Pro Ser Ala	Ala His Phe Arg Phe Tyr
905	910	915
Gln Ile Glu Gly	Asp Arg Tyr Asp Tyr	Asn Thr Val Pro Phe Asn
920	925	930
Glu Asp Asp Pro	Met Ser Trp Thr Glu	Asp Tyr Leu Ala Trp Trp
935	940	945
Pro Lys Pro Met	Glu Phe Arg Ala Cys	Tyr Ile Lys Val Lys Ile
950	955	960
Val Gly Pro Leu	Glu Val Asn Val Arg	Ser Arg Asn Met Gly Gly
965	970	975
Thr His Arg Arg	Thr Val Gly Lys Leu	Tyr Gly Ile Arg Asp Val
980	985	990
Arg Ser Thr Arg	Asp Arg Asp Gln Pro	Asn Val Ser Ala Ala Cys
995	1000	1005
Leu Glu Phe Lys	Cys Ser Gly Met Leu	Tyr Asp Gln Asp Arg Val
1010	1015	1020
Asp Arg Thr Leu	Val Lys Val Ile Pro	Gln Gly Ser Cys Arg Arg
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Ala Ser Val Asn	Pro Met Leu His Glu	Tyr Leu Val Asn His Leu
1040	1045	1050
Pro Leu Ala Val	Asn Asn Asp Thr Ser	Glu Tyr Thr Met Leu Ala
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Pro Leu Asp Pro	Leu Gly His Asn Tyr	Gly Ile Tyr Thr Val Thr
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Asp Gln Asp Pro	Arg Thr Ala Lys Glu	Ile Ala Leu Gly Arg Cys
1085	1090	1095
Phe Asp Gly Thr	Ser Asp Gly Ser Ser	Arg Ile Met Lys Ser Asn
1100	1105	1110
Val Gly Val Ala	Leu Thr Phe Asn Cys	Val Glu Arg Gln Val Gly
1115	1120	1125
Arg Gln Ser Ala	Phe Gln Tyr Leu Gln	Ser Thr Pro Ala Gln Ser
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Pro Ala Ala Gly	Thr Val Gln Gly Arg	Val Pro Ser Arg Arg Gln
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<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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<210> 126

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 126

ccattgtgca ggtcaggta cag 23

<210> 127

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 127

ctggagcaag tgctcagctg cctgtggta gactgggggc 40

<210> 128

<211> 2819

<212> DNA

<213> Homo sapiens

<400> 128

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 ttgatattat cactgcaaat cacattgcca gctgcagagc atattgtgga 1850  
 ttggaaggc tgcgacagcc ccccaaacag gaaagacaaa aaacaacaa 1900  
 atcaaccgac ctaaaaacat tggctactct agcgtggctg gccctagtac 1950  
 gactccgccc agtgtgtgga ccaaccaa atgcattcttt gctgtcaggt 2000  
 gcattgtggg cataaggaaa tctgttacia gctgccatat tggcctgctt 2050

ccgtccctga atcccttcca acctgtgctt tagtgaacgt tgctctgtaa 2100  
 ccctcgttgg ttgaagatt tctttgtctg atgttagtga tgcacatgtg 2150  
 taacagcccc ctctaaaagc gcaagccagt cataccctgt tatatcttag 2200  
 cagcactgag tcagtgcca gcacacaccc actatacaag agtggctata 2250  
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 ctggaactac tgtaatatgt agattttttg tattattgoc aatttgtggt 2350  
 accagacaat ctgttaattg atctaattcg aatcagcaaa gactgacatt 2400  
 ttattttgtc ctctttcgtt ctgttttgtt tcactgtgca gagatttctc 2450  
 tgtaaggcca acgaacgtgc tggcatcaaa gaatatcagt ttacatatat 2500  
 aacaagtgtg ataagattcc accaaaggac attctaagt ttttcttgtt 2550  
 gctttaacac tggaagattt aaagaataaa aactcctgca taaacgattt 2600  
 caggaatttg tattgcaatt tcttaagatg aaaggaacag ccaccaagca 2650  
 gtttcacact cactttactg atttctgtgt ggactgagta cattcagctg 2700  
 acgaatttag ttcccaggaa gatggattga tgttcactag ctggacaac 2750  
 ttctgcaaaa tatgagacta tttccacttg ggaaaaatta caacagcaaa 2800  
 aaaaaaaaaa aaaaaaaaaa 2819

<210> 129  
 <211> 438  
 <212> PRT  
 <213> Homo sapiens

<400> 129  
 Met Tyr Leu Ser Arg Ser Leu Ser Ile His Ala Leu Trp Val Thr  
 1 5 10 15  
 Val Ser Ser Val Met Gln Pro Tyr Pro Leu Val Trp Gly His Tyr  
 20 25 30  
 Asp Leu Cys Lys Thr Gln Ile Tyr Thr Glu Gly Lys Val Trp  
 35 40 45  
 Asp Tyr Met Ala Cys Gln Pro Glu Ser Thr Asp Met Thr Lys Tyr  
 50 55 60  
 Leu Lys Val Lys Leu Asp Pro Pro Asp Ile Thr Cys Gly Asp Pro  
 65 70 75  
 Pro Glu Thr Phe Cys Ala Met Gly Asn Pro Tyr Met Cys Asn Asn  
 80 85 90  
 Glu Cys Asp Ala Ser Thr Pro Glu Leu Ala His Pro Pro Glu Leu  
 95 100 105  
 Met Phe Asp Phe Glu Gly Arg His Pro Ser Thr Phe Trp Gln Ser  
 110 115 120  
 Ala Thr Trp Lys Glu Tyr Pro Lys Pro Leu Gln Val Asn Ile Thr



	125		130		135
Leu Ser Trp Ser Lys Thr Ile Glu Leu Thr Asp Asn Ile Val Ile	140		145		150
Thr Phe Glu Ser Gly Arg Pro Asp Gln Met Ile Leu Glu Lys Ser	155		160		165
Leu Asp Tyr Gly Arg Thr Trp Gln Pro Tyr Gln Tyr Tyr Ala Thr	170		175		180
Asp Cys Leu Asp Ala Phe His Met Asp Pro Lys Ser Val Lys Asp	185		190		195
Leu Ser Gln His Thr Val Leu Glu Ile Ile Cys Thr Glu Glu Tyr	200		205		210
Ser Thr Gly Tyr Thr Thr Asn Ser Lys Ile Ile His Phe Glu Ile	215		220		225
Lys Asp Arg Phe Ala Leu Phe Ala Gly Pro Arg Leu Arg Asn Met	230		235		240
Ala Ser Leu Tyr Gly Gln Leu Asp Thr Thr Lys Lys Leu Arg Asp	245		250		255
Phe Phe Thr Val Thr Asp Leu Arg Ile Arg Leu Leu Arg Pro Ala	260		265		270
Val Gly Glu Ile Phe Val Asp Glu Leu His Leu Ala Arg Tyr Phe	275		280		285
Tyr Ala Ile Ser Asp Ile Lys Val Arg Gly Arg Cys Lys Cys Asn	290		295		300
Leu His Ala Thr Val Cys Val Tyr Asp Asn Ser Lys Leu Thr Cys	305		310		315
Glu Cys Glu His Asn Thr Thr Gly Pro Asp Cys Gly Lys Cys Lys	320		325		330
Lys Asn Tyr Gln Gly Arg Pro Trp Ser Pro Gly Ser Tyr Leu Pro	335		340		345
Ile Pro Lys Gly Thr Ala Asn Thr Cys Ile Pro Ser Ile Ser Ser	350		355		360
Ile Gly Thr Asn Val Cys Asp Asn Glu Leu Leu His Cys Gln Asn	365		370		375
Gly Gly Thr Cys His Asn Asn Val Arg Cys Leu Cys Pro Ala Ala	380		385		390
Tyr Thr Gly Ile Leu Cys Glu Lys Leu Arg Cys Glu Glu Ala Gly	395		400		405
Ser Cys Gly Ser Asp Ser Gly Gln Gly Ala Pro Pro His Gly Thr	410		415		420
Pro Ala Leu Leu Leu Leu Thr Thr Leu Leu Gly Thr Ala Ser Pro	425		430		435
Leu Val Phe					

<210> 130  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 130  
 tcgattatgg acgaacatgg cagc 24  
  
 <210> 131  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 131  
 ttctgagatc cctcatcctc 20  
  
 <210> 132  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 132  
 aggttcagg acagcaagtt tggg 24  
  
 <210> 133  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 133  
 ttgtgtgac ctccgctacg gaattggctt ccctctacgg acagtggat 50  
  
 <210> 134  
 <211> 1493  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 134  
 cccacgctc cgggtgacct gggcogagcc ctcccggctg gctaagattg 50  
 ctgaggaggc ggcgggtagc tggcaggcgc cgacttcga aggcgccgt 100  
 ccggcgagg tgtcctcatg acttctcttg tggaccatgt cgtgatctt 150  
 ttttgcctg gtggtacggg taaggatgg actgccctc tcagcctcta 200  
 ctgattttta ccacacccaa gatttttttg aatggaggag acggctcaag 250  
 agtttagcct tgcgactggc ccagtatcca ggtcgaggtt ctgcagaagg 300



Gln Tyr Pro Gly Arg Gly Ser Ala Glu Gly Cys Asp Phe Ser Ile  
 50 55 60  
 His Phe Ser Ser Phe Gly Asp Val Ala Cys Met Ala Ile Cys Ser  
 65 70 75  
 Cys Gln Cys Pro Ala Ala Met Ala Phe Cys Phe Leu Glu Thr Leu  
 80 85 90  
 Trp Trp Glu Phe Thr Ala Ser Tyr Asp Thr Thr Cys Ile Gly Leu  
 95 100 105  
 Ala Ser Arg Pro Tyr Ala Phe Leu Glu Phe Asp Ser Ile Ile Gln  
 110 115 120  
 Lys Val Lys Trp His Phe Asn Tyr Val Ser Ser Ser Gln Met Glu  
 125 130 135  
 Cys Ser Leu Glu Lys Ile Gln Glu Glu Leu Lys Leu Gln Pro Pro  
 140 145 150  
 Ala Val Leu Thr Leu Glu Asp Thr Asp Val Ala Asn Gly Val Met  
 155 160 165  
 Asn Gly His Thr Pro Met His Leu Glu Pro Ala Pro Asn Phe Arg  
 170 175 180  
 Met Glu Pro Val Thr Ala Leu Gly Ile Leu Ser Leu Ile Leu Asn  
 185 190 195  
 Ile Met Cys Ala Ala Leu Asn Leu Ile Arg Gly Val His Leu Ala  
 200 205 210  
 Glu His Ser Leu Gln Asp Pro Arg Ser Trp Phe Cys Trp Leu Asp  
 215 220 225  
 Gln Thr Ser

<210> 136  
 <211> 239  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 39, 61, 143, 209  
 <223> unknown base

<400> 136  
 tgcttctctgg agacctgtg gtgggaattc acagcttctt atgacactac 50  
 ctgcattggc nttagcctoca ggccatacgc ttttcttgag tttagacgca 100  
 tcattcagaa agtgaaagtgg cattttaact atgtaagttc ctntcagatg 150  
 gagtgcagct tggaaaaaat tcaggaggag ctcaagttgc agcctccagc 200  
 ggttctcant atggaggaca cagatgtggc aaatggggg 239

<210> 137  
 <211> 2300  
 <212> DNA

<213> Homo sapiens

<400> 137

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acgtgagcgc gacccgacct taaagagtgg ggagcaaagg gaggcacagag 100  
ccctttaaaa cgaggcgggt ggtgcctgcc cctttaaggg cggggcgtcc 150  
ggacgactgt atctgagccc cagactgccc cgagtttctg tcgcaggctg 200  
cgaggaaagg ccctaggtct ggtctgggt gcttggggc ggcggcttcc 250  
tccccgtctg tctccccgg gccagaggc acctcggtt cagtcatgct 300  
gagcagagta tggaagcacc tgactacgaa gtgctatccg tgcgagaaca 350  
gctattccac gagaggatcc gcgagtgtat tatatcaaca cttctgtttg 400  
caacactgta catcctctgc cacatcttcc tgaccogctt caagaagcct 450  
gctgagtcca ccacagtga tgatgaagat gccaccgtca acaagattgc 500  
gctcgagctg tgcaccttta ccctggcaat tggcctgggt gctgtcctgc 550  
tcttgccctt ctccatcatc agcaatgagg tgctgtctct cctgcctcgg 600  
aactactaca tccagtggct caacggctcc ctcatccatg gcctctggaa 650  
ccttggtttt ctcttcccca acctgtccct catcttctc atgccctttg 700  
catattttct cactgagtct gagggtcttg ctggctccag aaagggtgtc 750  
ctgggcccgg tctatgagac agtgggtgat ttgatgtccc tcaactotgt 800  
ggtgtaggt atggtgtggg tggcatcagc cattgtggac aagaacaagg 850  
ccaacagaga gtcaactctat gacttttggg agtactatct cccctacctc 900  
tactcatgca tctccttct tggggttctg ctgctcctg tgtgtactcc 950  
actgggtctc gcccgcattg tctcgtcac tgggaagctg ctagtcaagc 1000  
cccggtctgt ggaagacctg gaggagcagc tgtactgtct agcctttgag 1050  
gaggcagccc tgaccgcag gatctgtaat cctacttct gctggctgcc 1100  
tttagacatg gagctgtctac acagacaggt cctggctctg cagacacaga 1150  
gggtcctgct ggagaagagg cggaagcct cagcctggca acggaacctg 1200  
ggctaccccc tggctatgct gtgcttgctg gtgctgacgg gcctgtctgt 1250  
gtcattgtg gccatccaca tctggagct gctcatcgat gaggtgccca 1300  
tgccccagg catgcagggt acctccttag gccaggtctc cttctccaag 1350  
ctgggtcctt ttggtgcctg cattoaggtt gtactcatct ttacctaat 1400  
ggtgtcctca gttgtgggt tctatagctc tccactcttc cggagcctgc 1450  
ggcccagatg gcacgacact gccatgacgc agataattgg gaactgtgtc 1500

tgtctcctgg tcctaagctc agcaacttct gtcttctctc gaacctgagg 1550  
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 gaaaaaactg gacactgcca tctgctgcct aggcctggag ggaagcccaa 1850  
 ggctacttgg acctcaggac ctggaatctg agaggggtgg tggcagaggg 1900  
 gagcagagcc atctgcacta ttgcataatc tgagccagag tttgggacca 1950  
 ggacctcctg cttttccata ctttaactgt gcctcagcat ggggtagggc 2000  
 tgggtgactg ggtctagccc ctgatcccaa atctgtttc acatcaatct 2050  
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 tcgggagata gattgtctcc cttgcctctg gccagcaga gcctaagcac 2200  
 tgtctatcc tggaggggct ttggaccacc tgaagacca aggggatagg 2250  
 gaggaggagg cttcagccat cagcaataaa gttgatccca gggaaaaaaa 2300

<210> 138

<211> 489

<212> PRT

<213> Homo sapiens

<400> 138

Met	Glu	Ala	Pro	Asp	Tyr	Glu	Val	Leu	Ser	Val	Arg	Glu	Gln	Leu	1	5	10	15
Phe	His	Glu	Arg	Ile	Arg	Glu	Cys	Ile	Ile	Ser	Thr	Leu	Leu	Phe	20	25	30	
Ala	Thr	Leu	Tyr	Ile	Leu	Cys	His	Ile	Phe	Leu	Thr	Arg	Phe	Lys	35	40	45	
Lys	Pro	Ala	Glu	Phe	Thr	Thr	Val	Asp	Asp	Glu	Asp	Ala	Thr	Val	50	55	60	
Asn	Lys	Ile	Ala	Leu	Glu	Leu	Cys	Thr	Phe	Thr	Leu	Ala	Ile	Ala	65	70	75	
Leu	Gly	Ala	Val	Leu	Leu	Leu	Pro	Phe	Ser	Ile	Ile	Ser	Asn	Glu	80	85	90	
Val	Leu	Leu	Ser	Leu	Pro	Arg	Asn	Tyr	Tyr	Ile	Gln	Trp	Leu	Asn	95	100	105	
Gly	Ser	Leu	Ile	His	Gly	Leu	Trp	Asn	Leu	Val	Phe	Leu	Phe	Pro	110	115	120	
Asn	Leu	Ser	Leu	Ile	Phe	Leu	Met	Pro	Phe	Ala	Tyr	Phe	Phe	Thr				



440 445 450  
 Leu Val Lys Thr Phe Thr Ala Ala Val Arg Ala Glu Leu Ile Arg  
 455 460 465  
 Ala Phe Gly Leu Asp Arg Leu Pro Leu Pro Val Ser Gly Phe Pro  
 470 475 480  
 Gln Ala Ser Arg Lys Thr Gln His Gln  
 485

<210> 139  
 <211> 294  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 53, 57  
 <223> unknown base

<400> 139  
 ggctgcccag ggaaggcccc ttgggttggt cttggttgct tggcggcggc 50  
 ggnnttcntcc ccgctcgtcc tccccgggcc cagaggcacc tcggcttcag 100  
 tcatgctgag cagagtatgg aagcacctga ctacgaagtg ctatccgtgc 150  
 gagaacagct attccacgag aggatccgag agtgattat atcaacactt 200  
 ctgtttgcaa cactgtacat cctctgccac atcttcctga ccgcttcaa 250  
 gaagcctgct gagttcacca cagtggatga tgaagatgcc accg 294

<210> 140  
 <211> 526  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 197, 349  
 <223> unknown base

<400> 140  
 gaccgacctt aaagagtggg agcaaaggga ggacagagcc ttttaaacg 50  
 aggcggttggt gcctgccctt taaggcgagg cggtccggac gactgtatct 100  
 gagccccaga ctgccccgag tttctgtcgc aggetgogag gaaaggcccc 150  
 taggctgggt ctggtgcttg gcggcgaggg ctctctcccc gttgtcntcc 200  
 ccggggcccag aggcacctcg gcttcagtea tgctgagcag agtatggaag 250  
 cacctgacta cgaagtgtcta tccgtgcgag aacagctatt ccacgagagg 300  
 atcccgaggt gtattatatc aacacttctg tttgcaacac tgtacatcnt 350  
 ctgccacatc ttctgacctt gcttcaagaa gcctgtgtag ttaccacag 400  
 tggatgatga agatgccacc gtcaacaaga ttgcgctcga gctgtgcacc 450



tttacccctgg caattgccct ggggtgctgctc ctgctcctgc ccttctccat 500  
catcagcaat gaggtgctgc actccc 526

<210> 141  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 141  
gactgtatct gagccccaga ctgc 24

<210> 142  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 142  
tcagcaatga ggtgctgctc 20

<210> 143  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 143  
tgaggaagat gagggacagg ttgg 24

<210> 144  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 144  
tatggaagca cctgactacg aagtgtctatc cgtgcgagaa cagctattcc 50

<210> 145  
<211> 685  
<212> DNA  
<213> Homo sapiens

<400> 145  
gatgtgctcc ttggagctgg tgtgcagtgt cctgactgta agatcaagtc 50  
caaacctgtt ttggaattga ggaaacttct cttttgatct cagcccttgg 100  
tgggtccaggt ctctactgtg ctgtgggtga tattactggc cctggctcct 150  
gtcagtgagc agtttgcaag gacaccacagg cccattattt tcctccagcc 200  
tccatggacc acagtcttcc aaggagagag agtgaccctc acttgcaagg 250

gatttcgctt ctactcacca cagaaaaaaa aatggtacca tcggtacctt 300  
 gggaaagaaa tactaagaga aaccccagac aatatccttg aggttcagga 350  
 atctggagag tacagatgcc agggccaggg ctcccctctc agtagccctg 400  
 tgcacttgga tttttcttca gagatgggat ttctctatgc tgcccaggct 450  
 aatgttgaac tcctgggctc aagtgatctg ctcacctagg cctctcaaag 500  
 cgctgggatt acagcttcgc tgatcctgca agctccactt tctgtgtttg 550  
 aaggagactc tgtggttctg aggtgccggg caaaggcgga agtaaacctg 600  
 aataatacta tttaacaagaa tgataatgtc ctggcattcc ttaataaaaag 650  
 aactgacttc caaaaaaaaa aaaaaaaaaa aaaaa 685

<210> 146  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly  
 1 5 10 15  
 Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro  
 20 25 30  
 Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys  
 35 40 45  
 Gly Phe Arg Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg  
 50 55 60  
 Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu  
 65 70 75  
 Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser  
 80 85 90  
 Pro Leu Ser Ser Pro Val His Leu Asp Phe Ser Ser Glu Met Gly  
 95 100 105  
 Phe Pro His Ala Ala Gln Ala Asn Val Glu Leu Leu Gly Ser Ser  
 110 115 120  
 Asp Leu Leu Thr

<210> 147  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
 cagaagaggg ggctagctag ctgtctctgc ggaccaggga gacccccgcg 50  
 cccccccggt gtgaggcggc ctcacagggc cgggtgggct ggcgagccga 100  
 cgcggcgcgc gaggaggctg tgaggagtgt gtggaacagg acccgggaca 150

gagggaaccat	gggtcogcag	aaactgagca	ccttttgccct	gttgctgcta	200
tacctcatcg	ggggcgtgat	tgccggagca	gattttctata	agatcttggg	250
ggtgcctcga	agtgccctcta	taaaggatat	taaaaaggcc	tataggaaac	300
tagccctgca	gcttcatccc	gaccggaacc	ctgatgatcc	acaagcccag	350
gagaaattcc	aggatctggg	tgctgcttat	gaggttctgt	cagatagtga	400
gaaacggaaa	cagtaacgata	cttatgggtga	agaaggatta	aaagatgtgc	450
atcagagctc	ccatggagac	attttttcac	acttctttgg	ggatttttgt	500
ttcatgtttg	gaggaacccc	tcgtcagcaa	gacagaaata	ttocaaagagg	550
aagtgtatatt	attgtagatc	tagaagtcac	tttggaaгаа	gtatatgcag	600
gaaattttgt	ggaagtagtt	agaaaacaa	ctgtggcaag	gcaggctcct	650
ggcaaacgga	agtgcaattg	tcggcaagag	atgcggacca	cccagctggg	700
ccttgggcgc	ttccaaatga	cccaggaggt	ggtctgcgac	gaatgcccta	750
atgtcaaaact	agtgaatgaa	gaacgaacgc	tggaaagtga	aatagagcct	800
ggggtgagag	acgcatgtga	gtaccocctt	attggagaag	gtgagcctca	850
cgtggatggg	gagcctggag	atttacggtt	ccgaatcaaa	gttgcaagcg	900
acccaatatt	tgaagggaga	ggagatgatt	tgtacacaaa	tgtgacaatc	950
tcattagtgtg	agtcactggt	tggtcttgag	atggatatta	ctcacttgga	1000
tggtcacaag	gtacatatatt	cccgggataa	gatcaccagg	ccaggagcga	1050
agctatggaa	gaaaggggaa	gggtcccca	actttgacaa	caacaatatc	1100
aagggtctct	tgataatcac	ttttgatgtg	gattttccaa	aagaacagtt	1150
aacagaggaa	gcgagagaag	gtatcaaaac	gctactgaaa	caagggtcag	1200
tgcagaaggt	atacaatgga	ctgcaaggat	attgagagtg	aataaaattg	1250
gactttgttt	aaaataagtg	aataagcgat	atttattatc	tgcaaggttt	1300
ttttgtgtgt	gtttttgttt	ttattttcaa	tatgcaagtt	aggcttaatt	1350
tttttatcta	atgatcatca	tgaatgaatt	aagagggtct	aagaatttgt	1400
ccattttgcat	tcggaaaaga	atgaccagca	aaagggtttac	taatacctct	1450
ccctttgggg	atttaattgtc	tggtgtctgc	gcctgagttt	caagaattaa	1500
agctgcaaga	ggactccagg	agcaaaaagaa	acacaatata	gagggttgga	1550
gttgtagca	atttcattca	aaatgccaac	tggagaagtc	tgtttttaaa	1600
tacattttgt	tggtattttt	a	1621		

<210>	148
<211>	358
<212>	PRT

<213> Homo sapiens

<400> 148

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr	
1				5					10					15	
Leu	Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu	
				20					25					30	
Gly	Val	Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr	
				35					40					45	
Arg	Lys	Leu	Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp	
				50					55					60	
Pro	Gln	Ala	Gln	Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu	
				65					70					75	
Val	Leu	Ser	Asp	Ser	Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly	
				80					85					90	
Glu	Glu	Gly	Leu	Lys	Asp	Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile	
				95					100					105	
Phe	Ser	His	Phe	Phe	Gly	Asp	Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr	
				110					115					120	
Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile	Pro	Arg	Gly	Ser	Asp	Ile	Ile	
				125					130					135	
Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu	Val	Tyr	Ala	Gly	Asn	Phe	
				140					145					150	
Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly	
				155					160					165	
Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu	
				170					175					180	
Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu	
				185					190					195	
Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val	
				200					205					210	
Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile	
				215					220					225	
Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg	
				230					235					240	
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly	
				245					250					255	
Asp	Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu	
				260					265					270	
Val	Gly	Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val	
				275					280					285	
His	Ile	Ser	Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp	
				290					295					300	

Lys Lys Gly Glu Gly Leu Pro Asn Phe Asp Asn Asn Asn Ile Lys  
 305 310  
 Gly Ser Leu Ile Ile Thr Phe Asp Val Asp Phe Pro Lys Glu Gln  
 320 325 330  
 Leu Thr Glu Glu Ala Arg Glu Gly Ile Lys Gln Leu Leu Lys Gln  
 335 340 345  
 Gly Ser Val Gln Lys Val Tyr Asn Gly Leu Gln Gly Tyr  
 350 355

<210> 149  
 <211> 509  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 34, 52, 134, 142, 155, 158, 196, 217, 228, 272, 347, 410, 445,  
 482  
 <223> unknown base

<400> 149  
 tgggaccagg gaaccccgagg ccccccgggtg gagngcctaa caggccgggtg 50  
 gntgcgacgg aagcggcggg cggaggagggt ttgaggatt ttggaacag 100  
 gaccgggaca gaggaaccat ggttcgcgag aacntgagca cnttttgctt 150  
 gttgntgnta tacttcacg gggcggtgat tgccggagca gatttntata 200  
 agattttggg gtgcctngaa gtgccttnta taaaggatat taaaaggcc 250  
 tataggaac tagccctgca gntttatccc gaccggaacc ctgatgatcc 300  
 acaagccagg gagaaattcc aggatttggg tgctgcttat gaggttntgt 350  
 cagatagatga gaaacggaaa cagtacgata attatggtga agaaggatta 400  
 aaagatggtn atcagagctc ccatggagac attttttcac acttntttgg 450  
 ggatttttgt ttcattgttg gaggaacccc tngtcagcaa gacagaaata 500  
 ttccaagag 509

<210> 150  
 <211> 1532  
 <212> DNA  
 <213> Homo sapiens

<400> 150  
 ggcacgaggg ggcggggcag tcgcgggatg cgcccgggag ccacagcctg 50  
 aggcctctcag gtctctcgag gtgtcgtgga ggaacctagc acctgccatc 100  
 ctcttcccca atttgccact tccagcagct ttagcccatg aggaggatgt 150  
 gaccgggact gagtccaggag cctctgggaa gcatggagac tgtggtgatt 200  
 gttgccatag gtgtgctggc caccatcttt ctggcttcgt ttgacgcctt 250  
 ggtgctggtt tgcaggcagc gctactgccc gccgcgagac ctgctgcagc 300

gctatgattc taagccatt gtggacctca ttggtgccat ggagaccag 350  
 tctgagccct ctgagttaga actggacgat gtcgttatca ccaaccccc 400  
 cattgagcc attctggaga atgaagactg gatcgaagat gctctgggtc 450  
 tcatgtccca ctgcattgcc atcttgaaga ttgtcacac tctgacagag 500  
 aagcttgttg ccatgacaat gggctctggg gccaaagatga agacttcagc 550  
 cagtgtcagc gacatcattg ttgtggccaa gcggatcagc cccagggttg 600  
 atgatgttgt gaagtogatg taccctcctg tggaccccaa actcctggac 650  
 gcacggacga ctgccctgct cctgtctgtc agtcacctgg tgcgtgtgac 700  
 aaggaatgcc tgccatctga cgggaggcct ggactggatt gaccagtctc 750  
 tgtcggctgc tgaggagcat ttggaagtcc ttcgagaagc agccctagct 800  
 tctgagccag ataaaggcct cccaggccct gaaggcttcc tgcaggagca 850  
 gtctgcaatt tagtgcctac aggccagcag ctagccatga agccctctgc 900  
 cgccatccct gcatggctca gcttagcctt ctacttttct ctatagatt 950  
 agttgttctc cacggctgga gagttcagct gtgtgtgcat agtaaagcag 1000  
 gagatccccg tcagtttatg cctcttttgc agttgcaaac tgtggctggt 1050  
 gagtggcagt ctaatactac agttagggga gatgccattc actctctgca 1100  
 agaggagtat tgaaaactgg tggactgtca gctttattta gctcacctag 1150  
 tgttttcaag aaaattgagc caccgtctaa gaaatcaaga ggtttcacat 1200  
 taaaattaga atttctggcc tctctogac ggtcagaatg tgtggcaatt 1250  
 ctgatctgca ttttcagaag aggacaatca attgaaaacta agtaggggtt 1300  
 tcttcttttg gcaagacttg tactctctca cctggcctgt ttcatttatt 1350  
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 aggttttgggt ttgaagctga ggaactacaa agttgatgat tcttttttta 1450  
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 atacttatgt ttccctcaaa aaaaaaaaaa aa 1532

<210> 151

<211> 226

<212> PRT

<213> Homo sapiens

<400> 151

Met	Glu	Thr	Val	Val	Ile	Val	Ala	Ile	Gly	Val	Leu	Ala	Thr	Ile
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Phe	Leu	Ala	Ser	Phe	Ala	Ala	Leu	Val	Leu	Val	Cys	Arg	Gln	Arg
				20						25				30

Tyr	Cys	Arg	Pro	Arg	Asp	Leu	Leu	Gln	Arg	Tyr	Asp	Ser	Lys	Pro
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	35		40		45
Ile Val Asp Leu	Ile 50	Gly Ala Met Glu	Thr 55	Gln Ser Glu Pro	Ser 60
Glu Leu Glu Leu	Asp 65	Asp Val Val Ile	Thr 70	Asn Pro His Ile	Glu 75
Ala Ile Leu Glu	Asn 80	Glu Asp Trp Ile	Glu 85	Asp Ala Ser Gly	Leu 90
Met Ser His Cys	Ile 95	Ala Ile Leu Lys	Ile 100	Cys His Thr Leu	Thr 105
Glu Lys Leu Val	Ala 110	Met Thr Met Gly	Ser 115	Gly Ala Lys Met	Lys 120
Thr Ser Ala Ser	Val 125	Ser Asp Ile Ile	Val 130	Val Ala Lys Arg	Ile 135
Ser Pro Arg Val	Asp 140	Asp Val Val Lys	Ser 145	Met Tyr Pro Pro	Leu 150
Asp Pro Lys Leu	Leu 155	Asp Ala Arg Thr	Thr 160	Ala Leu Leu Leu	Ser 165
Val Ser His Leu	Val 170	Leu Val Thr Arg	Asn 175	Ala Cys His Leu	Thr 180
Gly Gly Leu Asp	Trp 185	Ile Asp Gln Ser	Leu 190	Ser Ala Ala Glu	Glu 195
His Leu Glu Val	Leu 200	Arg Glu Ala Ala	Leu 205	Ala Ser Glu Pro	Asp 210
Lys Gly Leu Pro	Gly 215	Pro Glu Gly Phe	Leu 220	Gln Glu Gln Ser	Ala 225

Ile

<210> 152  
 <211> 1027  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1017, 1020  
 <223> unknown base

<400> 152  
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 tcgcccgtgt ccccaccact gcagccatga tctccttaac ggacacgcag 100  
 aaaattggaa tgggattaac aggatttga gtgtttttcc tgttcttttg 150  
 aatgattctc ttttttgaca aagcactact ggctatttga aatgttttat 200  
 ttgtagccgg ctgggctttt gtaattggtt tagaaagaac attcagattc 250  
 ttcttccaaa aacataaaat gaaagctaca gggttttttc tgggtggtgt 300

attttagtgc cttattggtt ggcccttgat aggcattgac ttcgaaattt 350  
 atggattttt tctcttggtc aggggcttct ttcctgtcgt tgttggcttt 400  
 attagaagag tgcagtcctt tggatccctc cttaaattac ctggaattag 450  
 atcatttgta gataaagttg gagaaagcaa caatatggta taacaacaag 500  
 tgaatttgaa gactcattta aaatattgtg ttatttataa agtcatttga 550  
 agaataattca gcacaaaatt aaattacatg aaatagcttg taatgttctt 600  
 tacaggagtt taaaacgtat agcctacaaa gtaccagcag caaattagca 650  
 aagaagcagt gaaaacaggc ttctactcaa gtgaactaag aagaagtcag 700  
 caagcaaaact gagagagggtg aaatccatgt taatgatgct taagaaactc 750  
 ttgaaggcta tttgtgttgt ttttccacaa tgtgcgaaac tcagccatcc 800  
 ttgagaact gtgtgcctg tttcttttct tttattttg aaggctcagg 850  
 agcatccata ggcatttgct ttttagaagt gtccactgca atggcaaaaa 900  
 tatttccagt tgcactgtat ctctggaagt gatgcatgaa ttcgattgga 950  
 ttgtgtcatt taaagtatt aaaaccaagg aaacccaat ttgatgtat 1000  
 ggattacttt ttttngn n cagggcc 1027

<210> 153  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> N-myristoylation Sites  
 <222> 11-16, 51-56 and 116-121  
 <223> N-myristoylation Sites.

<220>  
 <221> Transmembrane domains  
 <222> 12-30, 33-52, 69-89 and 93-109  
 <223> Transmembrane domains

<220>  
 <221> Aminoacyl-transfer RNA Synthetases.  
 <222> 49-59  
 <223> Aminoacyl-transfer RNA synthetases class-II protein.

<400> 153  
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 1 5 10 15  
 Gly Phe Gly Val Phe Phe Leu Phe Phe Gly Met Ile Leu Phe Phe  
 20 25 30  
 Asp Lys Ala Leu Leu Ala Ile Gly Asn Val Leu Phe Val Ala Gly  
 35 40 45  
 Leu Ala Phe Val Ile Gly Leu Glu Arg Thr Phe Arg Phe Phe Phe  
 50 55 60



Gln	Lys	His	Lys	Met	Lys	Ala	Thr	Gly	Phe	Phe	Leu	Gly	Gly	Val
				65					70					75
Phe	Val	Val	Leu	Ile	Gly	Trp	Pro	Leu	Ile	Gly	Met	Ile	Phe	Glu
				80					85					90
Ile	Tyr	Gly	Phe	Phe	Leu	Leu	Phe	Arg	Gly	Phe	Phe	Pro	Val	Val
				95					100					105
Val	Gly	Phe	Ile	Arg	Arg	Val	Pro	Val	Leu	Gly	Ser	Leu	Leu	Asn
				110					115					120
Leu	Pro	Gly	Ile	Arg	Ser	Phe	Val	Asp	Lys	Val	Gly	Glu	Ser	Asn
				125					130					135

Asn Met Val

<210> 154  
 <211> 405  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 66  
 <223> unknown base

<400> 154  
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 actcagcttc ccaactnagg ctttccgagg tgetttccgc gctgtccca 100  
 ccaactgcgc catgatctcc ttaacggaca cgcagaaaaa tggaatggga 150  
 ttaaccggat ttggagtgtt tttcctgttc ttggaatga ttctctttt 200  
 tgacaaagca ctactggcta ttggaaatgt tttatttga gccggcttgg 250  
 cttttgtaat tggtttagaa agaacattca gattcttctt ccaaaaacat 300  
 aaaatgaaag ctacaggttt tttctgggt ggtgtatttg tagtccttat 350  
 tggttggcct ttgataggca tgatcttcga aatttatgga tttttctct 400  
 tgttc 405

<210> 155  
 <211> 1781  
 <212> DNA  
 <213> Homo sapiens

<400> 155  
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 ccatgtgcc aaggctgcc ggaaggagac gccttctga gtccctggatc 100  
 tttcttctct ctggaatatc ttgactgtgg gtagttattt atttctgaat 150  
 aagagcgctc acgcatcatg gacctcgagg gactgtgaa gtctcagttc 200  
 ctgtgccacc tggctctctg ctacgtcttt attgcctcag ggctaatacat 250

caacaccatt cagctcttca ctctcctcct ctggcccatt aacaagcagc 300  
 tcttcccgaa gatcaactgc agactgtcct attgcatctc aagccagctg 350  
 gtgatgtctg tggagtgggtg gtcgggcacg gaatgcacca tcttcacgga 400  
 cccgcgcgcc tacctcaagt atgggaagga aatgccatc gtggttctca 450  
 accacaagtt tgaattgac tttctgtgtg gctggagcct gtccgaacgc 500  
 tttggctgtg tagggggctc caaggtcctg gccaaagaa agctggccta 550  
 tgtoccaatt atcggtctga tgtggtactt caccgagatg gtcttctgtt 600  
 cgcgcaagtg ggagcaggat cgcgaagcgg ttgccaccag tttgcagcac 650  
 ctccgggact accccgagaa gtattttttc ctgattcact gtgagggcac 700  
 acggttcacg gagaagaagc atgagatcag catgcaggtg gccggggcca 750  
 aggggctgcc tcgcctcaag catcacctgt tgccacgaac caagggtctc 800  
 gccatcaccg tgaggagctt gagaaatgta gtttcagctg tatatgactg 850  
 tacactcaat ttcagaaata atgaaatcc aacactgctg ggagtcttaa 900  
 acggaaagaa ataccatgca gattttgatg ttaggaggat ccactggaa 950  
 gacatccctg aagacgatga cgagtgtctg gcctggctgc acaagctcta 1000  
 ccaggagaag gatgccttcc aggaggagta ctacaggacg gccaccttcc 1050  
 cagagacgcc catggtgccc ccccgggcgc cctggacctt cgtgaactgg 1100  
 ctgttttggg cctcgctggt gctctaccct ttcttcagtt tccgtgtcag 1150  
 catgatcagg agcgggtctt cctgacgctt gccagcttc atcctcgtct 1200  
 tctttgtggc ctccgtggga gttcgaatga tgattgtgtg gacggaaatt 1250  
 gacaagggct ctgcctacgg caactctgac agcaagcaga aactgaatga 1300  
 ctgactcagg gaggtgtcac catccgaagg gaaccttggg gaactggttg 1350  
 cctctgcata tctcctctag tgggacacgg tgacaaagcg tgggtgagcc 1400  
 cctgctgggc acggcggaag tcacgaacct tccagccagg gactctggtc 1450  
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 gcttttagtg gctttggttt tctttttgtg cgagtgtgtg tgagaatggc 1550  
 tgtgtgtga gtgtgaactt tgttctgtga tcatagaaag ggtatttttag 1600  
 gctgcagggg agggcagggc tggggaccga aggggacaag ttccccttcc 1650  
 atccttttgt gctgagtttt ctgtaacctt tggttgccag agataaagtg 1700  
 aaaagtgcct taggtgagat gactaaatta tgcctccaag aaaaaaaaaa 1750  
 taaagtgcct ttctgggtca aaaaaaaaaa a 1781

<210> 156



290	295	300
Pro Pro Arg Arg	Pro Trp Thr Leu Val	Asn Trp Leu Phe Trp Ala
305	310	315
Ser Leu Val Leu Tyr	Pro Phe Phe Gln Phe Leu Val Ser Met Ile	330
320	325	
Arg Ser Gly Ser	Ser Leu Thr Leu Ala Ser Phe Ile Leu Val Phe	345
335	340	
Phe Val Ala Ser	Val Gly Val Arg Trp Met Ile Gly Val Thr Glu	360
350	355	
Ile Asp Lys Gly	Ser Ala Tyr Gly Asn Ser Asp Ser Lys Gln Lys	375
365	370	
Leu Asn Asp		

<210> 157  
 <211> 1849  
 <212> DNA  
 <213> Homo sapiens

<400> 157  
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 gctttgtgct cggcgcactc gctttccagc acctcaacac ggactcggac 100  
 acggaaggtt ttcttcttgg ggaagtaaaa ggtgaagcca agaacagcat 150  
 tactgattcc caaatggatg atgttgaagt tgttttataca attgacattc 200  
 agaaatatat tccatgctat cagcttttta gcttttataa ttcttcaggc 250  
 gaagtaaatg agcaagcact gaagaaaata ttatcaaatg tcaaaaagaa 300  
 tgtggtaggt tggtaacaat tccgtcgtca ttcagatcag atcatgacgt 350  
 ttagagagag gctgcttcac aaaaacttgc aggagcattt ttcaaaccaa 400  
 gaccttgttt ttctgctatt aacaccaagt ataataacag aaagctgctc 450  
 tactcatoga ctggaacatt ccttatataa acctcaaaaa ggactttttc 500  
 acagggtacc tttagtgggt gccaatctgg gcattgtctga acaactgggt 550  
 tataaaactg tatcagggtc ctgtatgtcc actggtttta gcogagcagt 600  
 acaaacacac agctctaaat tttttgaaga agatggatcc ttaaaggagg 650  
 tacataagat aaatgaaatg tatgcttcat tacaagagga attaaagagt 700  
 atatgcaaaa aagtgaaga cagtgaacaa gcagtagata aactagtaaa 750  
 ggatgtaaac agattaaaac gagaatttga gaaaaggaga ggagcacaga 800  
 ttccaggcgc aagagagaag aacatccaaa aagacctctg ggagaacatt 850  
 tttctttgtc aggcattacg gacctttttt ccaaaattctg aattttctca 900  
 ttcatgtggt atgtctttaa aaaatagaca tgtttctaaa agtagctgta 950

actacaacca ccatotcgat gtagtagaca atctgacctt aatggtagaa 1000  
 cactactgaca ttcctgaagc tagtccagct agtacaccac aaatcattaa 1050  
 gcataaagcc ttagacttag atgacagatg gcaattcaag agatctcgg 1100  
 tgttagatac acaagacaaa cgatctaaag caaatactgg tagtagtaac 1150  
 caagataaag catccaaaat gagcagccca gaaacagatg aagaaattga 1200  
 aaagatgaag gggtttggtg aatattcagc gtctcctaca ttttgatcct 1250  
 tttaacctta caaggagatt tttttatttg gctgatgggt aaagccaaac 1300  
 atttctattg tttttactat gttgagctac ttgcagtaag ttcatttggt 1350  
 tttactatgt tcacctgttt gcagtaatac acagataact cttagtgcat 1400  
 ttacttcaca aagtactttt tcaaacaatca gatgctttta ttccaaacc 1450  
 tttttttcac ctttcactaa gttgttgagg ggaaggctta cacagacaca 1500  
 ttcttttaga ttgaaaagt gagaccaggc acagtggctc acacctgtaa 1550  
 tcccagcact tagggaagac aagtcaggag gattgattga agctaggagt 1600  
 tagagaccag cctgggcaac gtattgagac catgtctatt aaaaaataaa 1650  
 atggaaaagc aagaatagcc ttattttcaa aatatggaaa gaaatttata 1700  
 tgaaaattta tctgagtcac taaaattctc cttaagtgat acttttttag 1750  
 aagtacatta tggttagagt tgccagataa aatgctggat atcatgcaat 1800  
 aaatttgcaa aacatcatct aaaattttaa aaaaaaaaaa aaaaaaaaaa 1849

<210> 158  
 <211> 409  
 <212> PRT  
 <213> Homo sapiens

<400> 158  
 Met Glu Gly Glu Ser Thr Ser Ala Val Leu Ser Gly Phe Val Leu  
 1 5 10 15  
 Gly Ala Leu Ala Phe Gln His Leu Asn Thr Asp Ser Asp Thr Glu  
 20 25 30  
 Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile  
 35 40 45  
 Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp  
 50 55 60  
 Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn  
 65 70 75  
 Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser  
 80 85 90  
 Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His  
 95 100 105



<210> 159  
 <211> 2651  
 <212> DNA  
 <213> Homo sapiens

<400> 159  
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 acgagcggac cagcgcaggg cagcccaagc agcgcgcagc gaacgcccgc 100  
 cgccgccccac accctctgcg gtccccgcgg cgctgcccac ccttccctcc 150  
 ttcccccgct ccccgctcgc ccggccagtc agcttgccgg gttcgctgcc 200  
 ccgcgaiaacc ccgaggtcac cagcccgcgc ctctgcttcc ctgggcccgcg 250  
 cgccgcctcc acgcccctct tctccctcgg ccggcgccct ggcaccgggg 300  
 accgttgctt gacgcgagcg ccagctctac ttttcgccc gogtctcttc 350  
 cgctctgctg cctcttccac caactccaac tctttctccc tccagctcca 400  
 ctctgctagtc ccgactccg ccagccctcg gcccgctgcc gtagcgcgcg 450  
 ttcccgctcg gtcccaaaagg tgggaacgcg tccgccccgg ccgcgacccat 500  
 ggcacgggtc ggcttgcccg cgcttctctg caccctggca gtgctcagcg 550  
 ccgcgctgct ggctgcccag ctcaagtcga aaagttgctc ggaagtgcga 600  
 cgtctttacg tgtccaaagg cttaacaag aacgatgccc cctccaacga 650  
 gatcaacggt gatcatttga agatctgtcc ccagggttct acctgctgct 700  
 ctcaagagat ggaggagaag tacagcctgc aaagtaaaga tgatttcaaa 750  
 agtgtgtgca gcgaacagtg caatcatttg caagctgtct ttgcttcacg 800  
 ttacaagaag tttgatgaat tcttcaaaaga actacttgaa aatgcagaga 850  
 aatccctgaa tgatatgttt gtgaagacat atggccattt atacatgcaa 900  
 aattctgagc tatttaaaga tctcttcgta gaggttgaaac gttactacgt 950  
 ggtgggaaat gtgaacctgg aagaaatgct aaatgacttc tgggctcgcc 1000  
 tcttgagagc gatgttccgc ctggtgaact ccagttacca ctttacagat 1050  
 gagtatctgg aatgtgtgag caagtatacg gacgagctga agcccttcgg 1100  
 agatgtccct cgcaaattga agctccaggt tactcgtgct tttgtagcag 1150  
 ccgctacttt cgctcaaggc ttagcgggtg cgggagatgt cgtgagcaag 1200  
 gtctccgtgg taaacccccc agcccaggtg acccatgccc tgttgaagat 1250  
 gatctactgc tcccactgcc ggggtctcgt gactgtgaag ccatgttaca 1300  
 actactgctc aaacatcatg agaggctgtt tggccaacca aggggatctc 1350  
 gattttgaat ggaacaattt catagatgct atgctgatgg tggcagagag 1400  
 gctagaggggt cttttcaaca ttgaatcggg catggatccc atcgatgtga 1450

agatttctga tgctattatg aacatgcagg ataatagtgt tcaagtgtct 1500  
 cagaaggttt tccagggtatg tggacccccc aagcccctcc cagctggacg 1550  
 aatttctcgt tccatctctg aaagtgcctt cagtgtctgc ttcagaccac 1600  
 atcaccocga ggaacgcca accacagcag ctggcactag tttggaccga 1650  
 ctggttactg atgtcaagga gaaactgaaa caggccaaga aattctggtc 1700  
 ctcccttcg agcaacgttt gcaacgatga gaggatggct gcaggaaaag 1750  
 gcaatgagga tgactgttgg aatgggaaag gcaaaagcag gtacctgttt 1800  
 gcagtgcacg gaaatggatt agccaaccag ggcaacaacc cagaggtcca 1850  
 ggttgacacc agcaaaccag acatactgat ccttcgtcaa atcatggctc 1900  
 ttogagtgat gaccagcaag atgaagaatg catacaatgg gaacgacgtg 1950  
 gactctttt atatcagtga tgaaagtatg ggagaaggaa gtggaagtgg 2000  
 ctgtgagtat cagcagtgcc cttcagagtt tgactacaat gccactgacc 2050  
 atgtcgggaa gagtgcgaat gagaagccg acagtgcctg tgcctgctct 2100  
 ggggcacagg cctacctcct cactgtcttc tgcatcttgt tctcgtttat 2150  
 gcagagagag tggagataat tctcaaaact tgagaaaaag tgttcatcaa 2200  
 aaagttaaaa ggcaccagtt atcacttttc taccatccta gtgactttgc 2250  
 tttttaaatg aatggacaac aatgtacagt ttttactatg tggccactgg 2300  
 tttaagaagt gctgactttg ttttctcatt cagttttggg aggaaaaggg 2350  
 actgtgcatt gagttggttc ctgctccccc aaaccatgtt aaacgtggct 2400  
 aacagtgtag gtacagaact atagttagtt gtgcatttgt gattttatca 2450  
 ctctattatt tgtttgatg ttttttctc atttctgttg tgggtttttt 2500  
 tttccaaact tgatctgcc ttgtttctta caagcaaacc agggctccctt 2550  
 ctgtgcacgt aacatgtacg tatttctgaa atattaaata gctgtacaga 2600  
 agcaggtttt atttatcatg ttatcttatt aaaagaaaaa gcccaaaaag 2650  
 c 2651

<210> 160  
 <211> 556  
 <212> PRT  
 <213> Homo sapiens

<400> 160  
 Met Ala Arg Phe Gly Leu Pro Ala Leu Leu Cys Thr Leu Ala Val  
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 Leu Ser Ala Ala Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys  
 20 25 30  
 Ser Glu Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn



35										40					45				
Asp	Ala	Pro	Leu	His	50	Glu	Ile	Asn	Gly	Asp	His	Leu	Lys	Ile	Cys	60			
Pro	Gln	Gly	Ser	Thr	65	Cys	Cys	Ser	Gln	Glu	Met	Glu	Glu	Lys	Tyr	75			
Ser	Leu	Gln	Ser	Lys	80	Asp	Asp	Phe	Lys	Ser	Val	Val	Ser	Glu	Gln	90			
Cys	Asn	His	Leu	Gln	95	Ala	Val	Phe	Ala	Ser	Arg	Tyr	Lys	Lys	Phe	105			
Asp	Glu	Phe	Phe	Lys	110	Glu	Leu	Leu	Glu	Asn	Ala	Glu	Lys	Ser	Leu	120			
Asn	Asp	Met	Phe	Val	125	Lys	Thr	Tyr	Gly	His	Leu	Tyr	Met	Gln	Asn	135			
Ser	Glu	Leu	Phe	Lys	140	Asp	Leu	Phe	Val	Glu	Leu	Lys	Arg	Tyr	Tyr	150			
Val	Val	Gly	Asn	Val	155	Asn	Leu	Glu	Glu	Met	Leu	Asn	Asp	Phe	Trp	165			
Ala	Arg	Leu	Leu	Glu	170	Arg	Met	Phe	Arg	Leu	Val	Asn	Ser	Gln	Tyr	180			
His	Phe	Thr	Asp	Glu	185	Tyr	Leu	Glu	Cys	Val	Ser	Lys	Tyr	Thr	Glu	195			
Gln	Leu	Lys	Pro	Phe	200	Gly	Asp	Val	Pro	Arg	Lys	Leu	Lys	Leu	Gln	210			
Val	Thr	Arg	Ala	Phe	215	Val	Ala	Ala	Arg	Thr	Phe	Ala	Gln	Gly	Leu	225			
Ala	Val	Ala	Gly	Asp	230	Val	Val	Ser	Lys	Val	Ser	Val	Val	Asn	Pro	240			
Thr	Ala	Gln	Cys	Thr	245	His	Ala	Leu	Leu	Lys	Met	Ile	Tyr	Cys	Ser	255			
His	Cys	Arg	Gly	Leu	260	Val	Thr	Val	Lys	Pro	Cys	Tyr	Asn	Tyr	Cys	270			
Ser	Asn	Ile	Met	Arg	275	Gly	Cys	Leu	Ala	Asn	Gln	Gly	Asp	Leu	Asp	285			
Phe	Glu	Trp	Asn	Asn	290	Phe	Ile	Asp	Ala	Met	Leu	Met	Val	Ala	Glu	300			
Arg	Leu	Glu	Gly	Pro	305	Phe	Asn	Ile	Glu	Ser	Val	Met	Asp	Pro	Ile	315			
Asp	Val	Lys	Ile	Ser	320	Asp	Ala	Ile	Met	Asn	Met	Gln	Asp	Asn	Ser	330			
Val	Gln	Val	Ser	Gln	335	Lys	Val	Phe	Gln	Gly	Cys	Gly	Pro	Pro	Lys	345			
Pro	Leu	Pro	Ala	Gly		Arg	Ile	Ser	Arg	Ser	Ile	Ser	Glu	Ser	Ala				

350	355	360
Phe Ser Ala Arg Phe Arg Pro His His	Pro Glu Glu Arg Pro	Thr
365	370	375
Thr Ala Ala Gly Thr Ser Leu Asp Arg	Leu Val Thr Asp Val	Lys
380	385	390
Glu Lys Leu Lys Gln Ala Lys Lys Phe	Trp Ser Ser Leu Pro	Ser
395	400	405
Asn Val Cys Asn Asp Glu Arg Met Ala	Ala Gly Asn Gly Asn	Glu
410	415	420
Asp Asp Cys Trp Asn Gly Lys Gly Lys	Ser Arg Tyr Leu Phe	Ala
425	430	435
Val Thr Gly Asn Gly Leu Ala Asn Gln	Gly Asn Asn Pro Glu	Val
440	445	450
Gln Val Asp Thr Ser Lys Pro Asp Ile	Leu Ile Leu Arg Gln	Ile
455	460	465
Met Ala Leu Arg Val Met Thr Ser Lys	Met Lys Asn Ala Tyr	Asn
470	475	480
Gly Asn Asp Val Asp Phe Phe Asp Ile	Ser Asp Glu Ser Ser	Gly
485	490	495
Glu Gly Ser Gly Ser Gly Cys Glu Tyr	Gln Gln Cys Pro Ser	Glu
500	505	510
Phe Asp Tyr Asn Ala Thr Asp His Ala	Gly Lys Ser Ala Asn	Glu
515	520	525
Lys Ala Asp Ser Ala Gly Val Arg Pro	Gly Ala Gln Ala Tyr	Leu
530	535	540
Leu Thr Val Phe Cys Ile Leu Phe Leu	Val Met Gln Arg Glu	Trp
545	550	555

Arg

<210> 161  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 161  
 ctccgtggta aacccacag ccc 23

<210> 162  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 162  
tcacatcgat gggatccatg accg 24

<210> 163  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 163  
ggtctcgtga ctgtgaagcc atgttacaac tactgctcaa acatcatgag 50

<210> 164  
<211> 870  
<212> DNA  
<213> Homo sapiens

<400> 164  
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gctgagtatc ctgacctgag tcatecccccag ggatcaggag cctccagcag 100  
ggaaccttcc attatattct tcaagcaact tacagctgca cgcacagttg 150  
cgatgaaagt tctaattctt tccctcctcc tgttgctgcc actaatgctg 200  
atgtccatgg tctctagcag cctgaatcca ggggtcgcca gaggccacag 250  
ggaccgaggg caggcttcta ggagatggct ccaggaaggc ggccaagaat 300  
gtgagtgcaa agattggttc ctgagagccc cgagaagaaa attcatgaca 350  
gtgtctgggc tgccaaagaa gcagtgcccc tgtgatcatt tcaagggcaa 400  
tgtgaagaaa acaagacacc aaaggcacca cagaaagcca aacaagcatt 450  
ccagagcctg ccagcaattt ctcaaacaat gtcagctaag aagctttgct 500  
ctgcctttgt aggagctctg agcgcccact ctccaatta aacatttcca 550  
gccaagaaga cagtgagcac acctaccaga cactcttctt ctcccacctc 600  
actctcccac tgtaccaccc cctaaatcat tccagtgtgc tcaaaaagca 650  
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cgtcagctct agcctgtgcc ctccccttac ccaggcttag gcttaattac 750  
ctgaagatt ccaggaaaact gtagcttcct agctagtgtc atttaacctt 800  
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tcaaaaaaaaa aaaaaaaaaa 870

<210> 165  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 165  
Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Pro Leu Met

1	5	10	15
Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg	20	25	30
Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu	35	40	45
Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro	50	55	60
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys	65	70	75
Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln	80	85	90
Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln	95	100	105
Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu	110	115	

<210> 166  
 <211> 551  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
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 ccagacgact cgggcaaaga cccaaagcca gacttcccc aattcctaag 150  
 cctcctgggc acagagatca ttgagaatgc agtcgagttc atcctccgct 200  
 ccatgtccag gagcacagga tttatggaat ttgatgataa tgaaggaaaa 250  
 cattcatcaa agtgacatcc tcaggacaca ccatgtggc tctgggacaa 300  
 tccaagagca gccaaatcct gcttttccag ttggctcca caagtctcc 350  
 aggacagagc cctcaaagca actcccaacg agttctcagg attcaggctc 400  
 tggcttcaac caaacagaac tcattttgaa caccctgact gcatttttgc 450  
 ttttagaaag ttagaataaa tatggcgctt tgggatcaca tagttgatgg 500  
 agaggaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 a 551

<210> 167  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 167  
 Met Ala Val Leu Val Leu Arg Leu Thr Val Val Leu Gly Leu Leu  
 1 5 10 15  
 Val Leu Phe Leu Thr Cys Tyr Ala Asp Asp Lys Pro Asp Lys Pro

	20		25		30
Asp Asp Lys Pro Asp Asp Ser Gly Lys Asp Pro Lys Pro Asp Phe					
	35		40		45
Pro Lys Phe Leu Ser Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala					
	50		55		60
Val Glu Phe Ile Leu Arg Ser Met Ser Arg Ser Thr Gly Phe Met					
	65		70		75
Glu Phe Asp Asp Asn Glu Gly Lys His Ser Ser Lys					
	80		85		

<210> 168  
 <211> 1371  
 <212> DNA  
 <213> Homo sapiens

<400> 168  
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 gcagctgctg gtgctgcttc ttaccctgcc cctgcacctc atggctctgc 150  
 tgggctgctg gcagccccctg tgcaaaagct acttccccta cctgatggcc 200  
 gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct 250  
 cttcagccag ataaaggggc ttacaggagc ctcgggaaaa gtggccctac 300  
 tggagctggg ctgcggaacc ggagccaact ttcagtctta ccaccgggc 350  
 tgcagggtca cctgcctaga cccaaatccc cactttgaga agttcctgac 400  
 aaagagcatg gctgagaaca ggcacctcca atatgagcgg ttgtgtgttg 450  
 ctctctgaga ggacatgaga cagctggctg atggctccat ggatgtgttg 500  
 gtctgcactc tgggtgctgt ctctgtgcag agcccaagga aggtcctgca 550  
 ggaggtccgg agagtactga gaccgggagg tgtgctcttt ttctgggagc 600  
 atgtggcaga accatatgga agctgggcct tcatgtggca gcaagttttc 650  
 gagccccact ggaaacacat tggggatggc tgctgacctc ccagagagac 700  
 ctggaaggat ctgagaacg ccagttcttc cgaatccaa atggaacgac 750  
 agccccctcc ctggaagtgg ctacctgttg ggccccacat catgggaaag 800  
 gctgtcaaac aatctttccc aagctccaag gcactcattt gtccttccc 850  
 cagcctccaa ttagaacaag cccccacca gcctatctat ctccactga 900  
 gagggacctc gcagaatgag agaagacatt catgtaccac ctactagtcc 950  
 ctctctcccc aacctctgcc agggcaatct ctaacttcaa tcccgccttc 1000  
 gacagtgaaa aagctctact tctacgtga cccaggggagg aaacactagg 1050  
 accctgttgt atctcaact gcaagtttct ggactagtct cccaacgttt 1100

gcctcccaat gttgtccctt tcttctgttc ccatggtaaa gctcctctcg 1150  
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 ccacctcttt cctgagctgg gggcaccagg gagaatcaga gatgtcgggg 1300  
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<210> 169

<211> 277

<212> PRT

<213> Homo sapiens

<400> 169

Met	Asp	Ile	Leu	Val	Pro	Leu	Leu	Gln	Leu	Leu	Val	Leu	Leu	Leu	15
1				5					10						
Thr	Leu	Pro	Leu	His	20	Leu	Met	Ala	Leu	Leu	Gly	Cys	Trp	Gln	Pro
					20					25					30
Leu	Cys	Lys	Ser	Tyr	35	Phe	Pro	Tyr	Leu	Met	Ala	Val	Leu	Thr	Pro
					35					40					45
Lys	Ser	Asn	Arg	Lys	50	Met	Glu	Ser	Lys	Lys	Arg	Glu	Leu	Phe	Ser
					50					55					60
Gln	Ile	Lys	Gly	Leu	65	Thr	Gly	Ala	Ser	Gly	Lys	Val	Ala	Leu	Leu
					65					70					75
Glu	Leu	Gly	Cys	Gly	80	Thr	Gly	Ala	Asn	Phe	Gln	Phe	Tyr	Pro	Pro
					80					85					90
Gly	Cys	Arg	Val	Thr	95	Cys	Leu	Asp	Pro	Asn	Pro	His	Phe	Glu	Lys
					95					100					105
Phe	Leu	Thr	Lys	Ser	110	Met	Ala	Glu	Asn	Arg	His	Leu	Gln	Tyr	Glu
					110					115					120
Arg	Phe	Val	Val	Ala	125	Pro	Gly	Glu	Asp	Met	Arg	Gln	Leu	Ala	Asp
					125					130					135
Gly	Ser	Met	Asp	Val	140	Val	Val	Val	Cys	Thr	Leu	Val	Leu	Cys	Ser
					140					145					150
Gln	Ser	Pro	Arg	Lys	155	Val	Leu	Gln	Glu	Val	Arg	Arg	Val	Leu	Arg
					155					160					165
Pro	Gly	Gly	Val	Leu	170	Phe	Phe	Trp	Glu	His	Val	Ala	Glu	Pro	Tyr
					170					175					180
Gly	Ser	Trp	Ala	Phe	185	Met	Trp	Gln	Gln	Val	Phe	Glu	Pro	Thr	Trp
					185					190					195
Lys	His	Ile	Gly	Asp	200	Gly	Cys	Cys	Leu	Thr	Arg	Glu	Thr	Trp	Lys
					200					205					210
Asp	Leu	Glu	Asn	Ala	215	Gln	Phe	Ser	Glu	Ile	Gln	Met	Glu	Arg	Gln
					215					220					225

Pro Pro Pro Leu Lys Trp Leu Pro Val Gly Pro His Ile Met Gly  
 230 235 240  
 Lys Ala Val Lys Gln Ser Phe Pro Ser Ser Lys Ala Leu Ile Cys  
 245 250 255  
 Ser Phe Pro Ser Leu Gln Leu Glu Gln Ala Thr His Gln Pro Ile  
 260 265 270  
 Tyr Leu Pro Leu Arg Gly Thr  
 275

<210> 170  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 170  
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 agcttctgta gataagggtt aaaaactaat atttatatga cagaagaaaa 150  
 agatgtcatt ccgtaaagta aacatcatca tcttggtcct ggctgttgct 200  
 ctctctttac tggttttgca ccataacttc ctcagcttga gcagtttggt 250  
 aaggaatgag gttacagatt caggaattgt agggcctcaa cctatagact 300  
 ttgtcccaaa tgctctccga catgcagtag atgggagaca agaggagatt 350  
 cctgtggtca tcgctgcac tgaagacagg cttggggggg ccattgcagc 400  
 tataaacagc attcagcaca aactcgcgc caatgtgatt ttctacattg 450  
 ttactctcaa caatacagca gaccatctcc ggtcctggct caacagtgat 500  
 tccctgaaaa gcatcagata caaaattgtc aattttgacc ctaaaacttt 550  
 ggaaggaaaa gtaaaggagg atcctgacca gggggaatcc atgaaacctt 600  
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 gccatataca tggatgatga tgtaattgtg caaggtgata ttcttgccct 700  
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 aattacattg gctatcttga ctataaaaag gaaagaatcc gtaagctttc 850  
 catgaaagcc agcacttgct catttaatcc tggagttttt gttgcaaacc 900  
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 aaactcaatg tagaagaggg actgtatagc agaacccttg ctggtagcat 1000  
 cacaacacct cctctgctta tcgtatttta tcaacagcac tctaccatcg 1050  
 atcctatgtg gaatgtccgc cacttgggtt ccagtgtctg aaaaagcatat 1100  
 tcacctcagt ttgtaaaggc tgccaagtta ctccattgga atggacattt 1150

gaagccatg ggaaggactg cttcatatac tgatgttgg gaaaaatggt 1200  
atattccaga cccaacaggc aaattcaacc taatccgaag atataccgag 1250  
atctozaaaca taaagtgaag cagaatttga actgtaagca agcattttctc 1300  
aggaagtctc ggaagatagc atgcatggga agtaacagtt gctaggcttc 1350  
aatgcctatc ggtagcaagc catggaaaaa gatgtgtcag ctaggtaaag 1400  
atgacaaact gccctgtctg gcagtcagct tcccagacag actatagact 1450  
ataaatatgt ctccatctgc cttaccaagt gttttcttc tacaatgctg 1500  
aatgactgga aagaagaact gatatggcta gttcagctag ctggtacaga 1550  
taattcaaaa ctgctgttgg ttttaatttt gtaacctgtg goctgatctg 1600  
taaataaaac ttacattttt c 1621

<210> 171  
<211> 371  
<212> PRT  
<213> Homo sapiens

<400> 171  
Met Ser Phe Arg Lys Val Asn Ile Ile Ile Leu Val Leu Ala Val  
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Ala Leu Phe Leu Leu Val Leu His His Asn Phe Leu Ser Leu Ser  
20 25 30  
Ser Leu Leu Arg Asn Glu Val Thr Asp Ser Gly Ile Val Gly Pro  
35 40 45  
Gln Pro Ile Asp Phe Val Pro Asn Ala Leu Arg His Ala Val Asp  
50 55 60  
Gly Arg Gln Glu Glu Ile Pro Val Val Ile Ala Ala Ser Glu Asp  
65 70 75  
Arg Leu Gly Gly Ala Ile Ala Ala Ile Asn Ser Ile Gln His Asn  
80 85 90  
Thr Arg Ser Asn Val Ile Phe Tyr Ile Val Thr Leu Asn Asn Thr  
95 100 105  
Ala Asp His Leu Arg Ser Trp Leu Asn Ser Asp Ser Leu Lys Ser  
110 115 120  
Ile Arg Tyr Lys Ile Val Asn Phe Asp Pro Lys Leu Leu Glu Gly  
125 130 135  
Lys Val Lys Glu Asp Pro Asp Gln Gly Glu Ser Met Lys Pro Leu  
140 145 150  
Thr Phe Ala Arg Phe Tyr Leu Pro Ile Leu Val Pro Ser Ala Lys  
155 160 165  
Lys Ala Ile Tyr Met Asp Asp Asp Val Ile Val Gln Gly Asp Ile  
170 175 180  
Leu Ala Leu Tyr Asn Thr Ala Leu Lys Pro Gly His Ala Ala Ala





aagtaaagga ggatcctgac cagggggaat ccatgaaacc tttaccttt 400  
 gcaaggttct acttgccaat tctgggtccc agcgcaaaga aggccatata 450  
 catggatgat gatgtaattg tgcaaggtga tattcttgcc cttacaata 500  
 cagcactgaa gccaggacat gcagctgcat ttccagaaga ttgtgattca 550  
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<210> 173

<211> 1866

<212> DNA

<213> Homo sapiens

<400> 173

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 gctgagctgg cagggcgggt cggggcgctg gctgcatcgc catctcctcc 200  
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 gagcaggaaa ccagtacaat tacattgggt atcttgacta taaaagggaa 1050  
 agaattcgta agctttccat gaaagccagc acttgctcat ttaactcctg 1100  
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 aactggaaaa atggatgaaa ctcaatgtag aagagggact gtatagcaga 1200

accctggctg gtagcatcac aacacctcct ctgcttatog tattttatca 1250  
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 gtgctggaaa acgatattca cctcagtttg taaaggctgc caagtactc 1350  
 cattggaatg gacatttgaa gccatgggga aggactgctt catatactga 1400  
 tgtttgggga aaaatgggat attccagacc caacaggcaa attcaaccta 1450  
 atccgaagat ataccgagat ctcaaacata aagtgaacaa gaatttgaac 1500  
 tgtaagcaag catttctcag gaagtctctg aagatagcat gcgtgggaag 1550  
 taacagttgc taggcttcaa tgcctatcgg tagcaagcca tggaaaaaga 1600  
 tgtgtcagct aggtaaagat gacaaaactgc cctgtctggc agtcagcttc 1650  
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 tttcttacta caatgctgaa tgactggaaa gaagaactga tatggctagt 1750  
 tcagctagct ggtacagata attcaaaact gctgttggtt ttaattttgt 1800  
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 aaaaaaaaaa aaaaaa 1866

<210> 174  
 <211> 823  
 <212> DNA  
 <213> Homo sapiens

<400> 174  
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 ctcaccattg aggcagctcc actgtctgtg ctggctctgag ggtgctgcct 150  
 gtcactgggg cagccatctc ccagggggcc ctcacgcca tgcctgcaa 200  
 cggctctcgt ggcttcttgc tgctgctgct ctgggtcctc ctctgctggg 250  
 cctgccattc tgcctgcgcg acgttgactc tctctctgaa tcagtcacca 300  
 actccagccc tggccocctgt cctgagaagg cccaccacc ccagaagccc 350  
 agccatgaag gcagctacct gctgcagccc tgaaggcccc tggcctagcc 400  
 tggagcccag gacctaagtc cacctcacct agagcctgga attaggtacc 450  
 cagagttcag ccagcctggg gtccagaact caagagtcog cctgcttgga 500  
 gctggaccaca gcggcccaga gtctagccag cttggctcca ataggagctc 550  
 agtggccccta aggagatggg cctgggggtgg gggcttatga gttggtgcta 600  
 gagccagggc catctggact atgctccato ccaagggcca agggctcaggg 650  
 gccgggtcca ctctttccct aggctgagca cctctaggcc ctctaggttg 700  
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09989-15-1-1000-1

<211> 87

<213> Hom

&lt;400&gt; 175

Asn Gly Leu Val Gly Phe Leu Leu Leu Leu Leu Trp Val Ile Leu  
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Cys Trp Ala Cys His Ser Arg Leu Pro Thr Leu Thr Leu Ser Leu  
35 40 45

Asn Pro Val Pro Thr Pro Ala Leu Ala Pro Val Leu Arg Arg Pro  
50 55 60

His His Pro Arg Ser Pro Ala Met Lys Ala Ala Thr Cys Cys Ser  
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Pro Glu Gly Pro Trp Pro Ser Leu Glu Pro Arg Thr  
80 85

<211> 1660

<212> DNA

<213> Homo sapiens

&lt;400&gt; 176

152

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 ctgtggtgag gattccgaga atcattgtca tgtacatgca aaacgcactg 950  
 aaagaacagc agcatgggtgc attgtccagg tacctgttcc gatgctgcta 1000  
 ctgctgtttc tgggtgcttg acaaatacct gctccatctc aaccagaatg 1050  
 catatactac aactgctatt aatgggacag atttctgtac atcagcaaaa 1100  
 gatgcattca aaatcttgto caagaactca agtcacttta catctattaa 1150  
 ctgctttgga gacttcataa tttttctagg aaaggtgtta gtggtgtgtt 1200  
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 gtgtgggcag tccctctgtt attggtagct ttttttgctt acttagtagc 1300  
 ccatagtttt ttatctgtgt ttgaaactgt gctggatgca cttttcctgt 1350  
 gttttgtctg tgatctggaa acaaatgatg gatcgtcaga aaagccctac 1400  
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 cagaactcca ggccattgtg agatagatac ccatttaggt atctgtacct 1550  
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<210> 177  
 <211> 445  
 <212> PRT  
 <213> Homo sapiens

<400> 177  
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 Leu Leu Val His Ile Phe Ile Ser Leu Val Ile Leu Gly Leu Leu  
 35 40 45  
 Phe Val Cys Gly Val Leu Trp Trp Leu Tyr Tyr Asp Tyr Thr Asn  
 50 55 60  
 Asp Leu Ser Ile Glu Leu Asp Thr Glu Arg Glu Asn Met Lys Cys  
 65 70 75  
 Val Leu Gly Phe Ala Ile Val Ser Thr Gly Ile Thr Ala Val Leu  
 80 85 90  
 Leu Val Leu Ile Phe Val Leu Arg Lys Arg Ile Lys Leu Thr Val

					95					100					105
Glu	Leu	Phe	Gln	Ile	Thr	Asn	Lys	Ala	Ile	Ser	Ser	Ala	Pro	Phe	
				110					115					120	
Leu	Leu	Phe	Gln	Pro	Leu	Trp	Thr	Phe	Ala	Ile	Leu	Ile	Phe	Phe	
				125					130					135	
Trp	Val	Leu	Trp	Val	Ala	Val	Leu	Leu	Ser	Leu	Gly	Thr	Ala	Gly	
				140					145					150	
Ala	Ala	Gln	Val	Met	Glu	Gly	Gly	Gln	Val	Glu	Tyr	Lys	Pro	Leu	
				155					160					165	
Ser	Gly	Ile	Arg	Tyr	Met	Trp	Ser	Tyr	His	Leu	Ile	Gly	Leu	Ile	
				170					175					180	
Trp	Thr	Ser	Glu	Phe	Ile	Leu	Ala	Cys	Gln	Gln	Met	Thr	Ile	Ala	
				185					190					195	
Gly	Ala	Val	Val	Thr	Cys	Tyr	Phe	Asn	Arg	Ser	Lys	Asn	Asp	Pro	
				200					205					210	
Pro	Asp	His	Pro	Ile	Leu	Ser	Ser	Leu	Ser	Ile	Leu	Phe	Phe	Tyr	
				215					220					225	
His	Gln	Gly	Thr	Val	Val	Lys	Gly	Ser	Phe	Leu	Ile	Ser	Val	Val	
				230					235					240	
Arg	Ile	Pro	Arg	Ile	Ile	Val	Met	Tyr	Met	Gln	Asn	Ala	Leu	Lys	
				245					250					255	
Glu	Gln	Gln	His	Gly	Ala	Leu	Ser	Arg	Tyr	Leu	Phe	Arg	Cys	Cys	
				260					265					270	
Tyr	Cys	Cys	Phe	Trp	Cys	Leu	Asp	Lys	Tyr	Leu	Leu	His	Leu	Asn	
				275					280					285	
Gln	Asn	Ala	Tyr	Thr	Thr	Thr	Ala	Ile	Asn	Gly	Thr	Asp	Phe	Cys	
				290					295					300	
Thr	Ser	Ala	Lys	Asp	Ala	Phe	Lys	Ile	Leu	Ser	Lys	Asn	Ser	Ser	
				305					310					315	
His	Phe	Thr	Ser	Ile	Asn	Cys	Phe	Gly	Asp	Phe	Ile	Ile	Phe	Leu	
				320					325					330	
Gly	Lys	Val	Leu	Val	Val	Cys	Phe	Thr	Val	Phe	Gly	Gly	Leu	Met	
				335					340					345	
Ala	Phe	Asn	Tyr	Asn	Arg	Ala	Phe	Gln	Val	Trp	Ala	Val	Pro	Leu	
				350					355					360	
Leu	Leu	Val	Ala	Phe	Phe	Ala	Tyr	Leu	Val	Ala	His	Ser	Phe	Leu	
				365					370					375	
Ser	Val	Phe	Glu	Thr	Val	Leu	Asp	Ala	Leu	Phe	Leu	Cys	Phe	Ala	
				380					385					390	
Val	Asp	Leu	Glu	Thr	Asn	Asp	Gly	Ser	Ser	Glu	Lys	Pro	Tyr	Phe	
				395					400					405	
Met	Asp	Gln	Glu	Phe	Leu	Ser	Phe	Val	Lys	Arg	Ser	Asn	Lys	Leu	

	410		415		420
Asn Asn Ala Arg Ala Gln Gln Asp Lys His Ser Leu Arg Asn Glu					
	425		430		435
Glu Gly Thr Glu Leu Gln Ala Ile Val Arg					
	440		445		

<210> 178  
 <211> 2773  
 <212> DNA  
 <213> Homo sapiens

<400> 178  
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 aagggaaaaa gaattatcoat tctgtgtggt gaaaattttt tgaaaaaaa 150  
 attgccttct tcaaacaaag gtgtcattct gatatttatg aggactgttg 200  
 ttctcactat gaaggcatct gttattgaaa tgctccttgg ttgtcgttg 250  
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 gttcactgtg cctcagatca actgcgatgt caaagccgga aagatcatcg 350  
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 ggaaggttgc tggacagtct ggttacaaa ggagttatc caacgggtgc 550  
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 cttctgtctg ttctaccacc agcatcccca gaccacaatc agtggggccc 850  
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 gcaaacggcg attccgaatc cagaagcagc tctgggtgta tgttgcccaa 1150  
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 agacaaccct gctactcact ttaacctcaa gacacacacg aattctcgag 1250

atctgaagac agccatagag aaaattactc agagaggagg acttttctaat 1300  
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 ggcccacgga caaagtggag gaggcttcaa gacttgcgag agagtacgga 1450  
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<210> 179



<211> 678  
 <212> PRT  
 <213> Homo sapiens

<400> 179

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Phe	Leu	Val	Leu	Leu	Val	Thr	Gly	Val	His	Ser	Asn	Lys	Glu	Thr	
			20						25					30	
Ala	Lys	Lys	Ile	Lys	Arg	Pro	Lys	Phe	Thr	Val	Pro	Gln	Ile	Asn	
			35						40					45	
Cys	Asp	Val	Lys	Ala	Gly	Lys	Ile	Ile	Asp	Pro	Glu	Phe	Ile	Val	
			50						55					60	
Lys	Cys	Pro	Ala	Gly	Cys	Gln	Asp	Pro	Lys	Tyr	His	Val	Tyr	Gly	
			65						70					75	
Thr	Asp	Val	Tyr	Ala	Ser	Tyr	Ser	Ser	Val	Cys	Gly	Ala	Ala	Val	
			80						85					90	
His	Ser	Gly	Val	Leu	Asp	Asn	Ser	Gly	Gly	Lys	Ile	Leu	Val	Arg	
			95						100					105	
Lys	Val	Ala	Gly	Gln	Ser	Gly	Tyr	Lys	Gly	Ser	Tyr	Ser	Asn	Gly	
			110						115					120	
Val	Gln	Ser	Leu	Ser	Leu	Pro	Arg	Trp	Arg	Glu	Ser	Phe	Ile	Val	
			125						130					135	
Leu	Glu	Ser	Lys	Pro	Lys	Lys	Gly	Val	Thr	Tyr	Pro	Ser	Ala	Leu	
			140						145					150	
Thr	Tyr	Ser	Ser	Ser	Lys	Ser	Pro	Ala	Ala	Gln	Ala	Gly	Glu	Thr	
			155						160					165	
Thr	Lys	Ala	Tyr	Gln	Arg	Pro	Pro	Ile	Pro	Gly	Thr	Thr	Ala	Gln	
			170						175					180	
Pro	Val	Thr	Leu	Met	Gln	Leu	Leu	Ala	Val	Thr	Val	Ala	Val	Ala	
			185						190					195	
Thr	Pro	Thr	Thr	Leu	Pro	Arg	Pro	Ser	Pro	Ser	Ala	Ala	Ser	Thr	
			200						205					210	
Thr	Ser	Ile	Pro	Arg	Pro	Gln	Ser	Val	Gly	His	Arg	Ser	Gln	Glu	
			215						220					225	
Met	Asp	Leu	Trp	Ser	Thr	Ala	Thr	Tyr	Thr	Ser	Ser	Gln	Asn	Arg	
			230						235					240	
Pro	Arg	Ala	Asp	Pro	Gly	Ile	Gln	Arg	Gln	Asp	Pro	Ser	Gly	Ala	
			245						250					255	
Ala	Phe	Gln	Lys	Pro	Val	Gly	Ala	Asp	Val	Ser	Leu	Gly	Leu	Val	
			260						265					270	
Pro	Lys	Glu	Glu	Leu	Ser	Thr	Gln	Ser	Leu	Glu	Pro	Val	Ser	Leu	
			275						280					285	
Gly	Asp	Pro	Asn	Cys	Lys	Ile	Asp	Leu	Ser	Phe	Leu	Ile	Asp	Gly	

290										295					300				
Ser	Thr	Ser	Ile	Gly	Lys	Arg	Arg	Phe	Arg	Ile	Gln	Lys	Gln	Leu					
				305						310				315					
Leu	Ala	Asp	Val	Ala	Gln	Ala	Leu	Asp	Ile	Gly	Pro	Ala	Gly	Pro					
				320					325					330					
Leu	Met	Gly	Val	Val	Gln	Tyr	Gly	Asp	Asn	Pro	Ala	Thr	His	Phe					
				335					340					345					
Asn	Leu	Lys	Thr	His	Thr	Asn	Ser	Arg	Asp	Leu	Lys	Thr	Ala	Ile					
				350					355					360					
Glu	Lys	Ile	Thr	Gln	Arg	Gly	Gly	Leu	Ser	Asn	Val	Gly	Arg	Ala					
				365					370					375					
Ile	Ser	Phe	Val	Thr	Lys	Asn	Phe	Phe	Ser	Lys	Ala	Asn	Gly	Asn					
				380					385					390					
Arg	Ser	Gly	Ala	Pro	Asn	Val	Val	Val	Val	Met	Val	Asp	Gly	Trp					
				395					400					405					
Pro	Thr	Asp	Lys	Val	Glu	Glu	Ala	Ser	Arg	Leu	Ala	Arg	Glu	Ser					
				410					415					420					
Gly	Ile	Asn	Ile	Phe	Phe	Ile	Thr	Ile	Glu	Gly	Ala	Ala	Glu	Asn					
				425					430					435					
Glu	Lys	Gln	Tyr	Val	Val	Glu	Pro	Asn	Phe	Ala	Asn	Lys	Ala	Val					
				440					445					450					
Cys	Arg	Thr	Asn	Gly	Phe	Tyr	Ser	Leu	His	Val	Gln	Ser	Trp	Phe					
				455					460					465					
Gly	Leu	His	Lys	Thr	Leu	Gln	Pro	Leu	Val	Lys	Arg	Val	Cys	Asp					
				470					475					480					
Thr	Asp	Arg	Leu	Ala	Cys	Ser	Lys	Thr	Cys	Leu	Asn	Ser	Ala	Asp					
				485					490					495					
Ile	Gly	Phe	Val	Ile	Asp	Gly	Ser	Ser	Ser	Val	Gly	Thr	Gly	Asn					
				500					505					510					
Phe	Arg	Thr	Val	Leu	Gln	Phe	Val	Thr	Asn	Leu	Thr	Lys	Glu	Phe					
				515					520					525					
Glu	Ile	Ser	Asp	Thr	Asp	Thr	Arg	Ile	Gly	Ala	Val	Gln	Tyr	Thr					
				530					535					540					
Tyr	Glu	Gln	Arg	Leu	Glu	Phe	Gly	Phe	Asp	Lys	Tyr	Ser	Ser	Lys					
				545					550					555					
Pro	Asp	Ile	Leu	Asn	Ala	Ile	Lys	Arg	Val	Gly	Tyr	Trp	Ser	Gly					
				560					565					570					
Gly	Thr	Ser	Thr	Gly	Ala	Ala	Ile	Asn	Phe	Ala	Leu	Glu	Gln	Leu					
				575					580					585					
Phe	Lys	Lys	Ser	Lys	Pro	Asn	Lys	Arg	Lys	Leu	Met	Ile	Leu	Ile					
				590					595					600					
Thr	Asp	Gly	Arg	Ser	Tyr	Asp	Asp	Val	Arg	Ile	Pro	Ala	Met	Ala					

605	610	615
Ala His Leu Lys Gly Val Ile Thr Tyr	Ala Ile Gly Val Ala Trp	
620	625	630
Ala Ala Gln Glu Glu Leu Glu Val Ile	Ala Thr His Pro Ala Arg	
635	640	645
Asp His Ser Phe Phe Val Asp Glu Phe	Asp Asn Leu His Gln Tyr	
650	655	660
Val Pro Arg Ile Ile Gln Asn Ile Cys	Thr Glu Phe Asn Ser Gln	
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Pro Arg Asn

<210> 180  
 <211> 1759  
 <212> DNA  
 <213> Homo sapiens

<400> 180  
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 gcgctgtgc ctcagcacca tgggtgcgcca ggtcccgacg gctccgcgcc 150  
 agatcccgcc cactacagtt tttctctgac tctaattgat gcactggaca 200  
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 aacaaacatt cgagtggtag gaggactcct gtctgtctcat ctgctctcca 350  
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 ggcattactg ggacaggttt tcctagactc ctcataacca ctggataatt 1700  
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 atcataaaa 1759

<210> 181  
 <211> 541  
 <212> PRT  
 <213> Homo sapiens

<400> 181  
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 Asp Pro Ala His Tyr Ser Phe Ser Leu Thr Leu Ile Asp Ala Leu  
 35 40 45  
 Asp Thr Leu Leu Ile Leu Gly Asn Val Ser Glu Phe Gln Arg Val  
 50 55 60  
 Val Glu Val Leu Gln Asp Ser Val Asp Phe Asp Ile Asp Val Asn  
 65 70 75  
 Ala Ser Val Phe Glu Thr Asn Ile Arg Val Val Gly Gly Leu Leu  
 80 85 90  
 Ser Ala His Leu Leu Ser Lys Lys Ala Gly Val Glu Val Glu Ala  
 95 100 105  
 Gly Trp Pro Cys Ser Gly Pro Leu Leu Arg Met Ala Glu Glu Ala  
 110 115 120  
 Ala Arg Lys Leu Leu Pro Ala Phe Gln Thr Pro Thr Gly Met Pro

	125		130		135
Tyr Gly Thr Val	Asn Leu Leu His Gly	Val Asn Pro Gly Glu Thr			
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Pro Val Thr Cys	Thr Ala Gly Ile Gly	Thr Phe Ile Val Glu Phe			
	155	160			165
Ala Thr Leu Ser	Ser Leu Thr Gly Asp	Pro Val Phe Glu Asp Val			
	170	175			180
Ala Arg Val Ala	Leu Met Arg Leu Trp	Glu Ser Arg Ser Asp Ile			
	185	190			195
Gly Leu Val Gly	Asn His Ile Asp Val	Leu Thr Gly Lys Trp Val			
	200	205			210
Ala Gln Asp Ala	Gly Ile Gly Ala Gly	Val Asp Ser Tyr Phe			
	215	220			225
Tyr Leu Val Lys	Gly Ala Ile Leu Leu	Gln Asp Lys Lys Leu Met			
	230	235			240
Ala Met Phe Leu	Glu Tyr Asn Lys Ala	Ile Arg Asn Tyr Thr Arg			
	245	250			255
Phe Asp Asp Trp	Tyr Leu Trp Val Gln	Met Tyr Lys Gly Thr Val			
	260	265			270
Ser Met Pro Val	Phe Gln Ser Leu Glu	Ala Tyr Trp Pro Gly Leu			
	275	280			285
Gln Ser Leu Ile	Gly Asp Ile Asp Asn	Ala Met Arg Thr Phe Leu			
	290	295			300
Asn Tyr Tyr Thr	Val Trp Lys Gln Phe	Gly Gly Leu Pro Glu Phe			
	305	310			315
Tyr Asn Ile Pro	Gln Gly Tyr Thr Val	Glu Lys Arg Glu Gly Tyr			
	320	325			330
Pro Leu Arg Pro	Glu Leu Ile Glu Ser	Ala Met Tyr Leu Tyr Arg			
	335	340			345
Ala Thr Gly Asp	Pro Thr Leu Leu Glu	Leu Gly Arg Asp Ala Val			
	350	355			360
Glu Ser Ile Glu	Lys Ile Ser Lys Val	Glu Cys Gly Phe Ala Thr			
	365	370			375
Ile Lys Asp Leu	Arg Asp His Lys Leu	Asp Asn Arg Met Glu Ser			
	380	385			390
Phe Phe Leu Ala	Glu Thr Val Lys Tyr	Leu Tyr Leu Leu Phe Asp			
	395	400			405
Pro Thr Asn Phe	Ile His Asn Asn Gly	Ser Thr Phe Asp Ala Val			
	410	415			420
Ile Thr Pro Tyr	Gly Glu Cys Ile Leu	Gly Ala Gly Gly Tyr Ile			
	425	430			435
Phe Asn Thr Glu	Ala His Pro Ile Asp	Leu Ala Ala Leu His Cys			

440	445	450
Cys Gln Arg Leu Lys Glu Glu Gln Trp Glu Val Glu Asp Leu Met		
455	460	465
Arg Glu Phe Tyr Ser Leu Lys Arg Ser Arg Ser Lys Phe Gln Lys		
470	475	480
Asn Thr Val Ser Ser Gly Pro Trp Glu Pro Pro Ala Arg Pro Gly		
485	490	495
Thr Leu Phe Ser Pro Glu Asn His Asp Gln Ala Arg Glu Arg Lys		
500	505	510
Pro Ala Lys Gln Lys Val Pro Leu Leu Ser Cys Pro Ser Gln Pro		
515	520	525
Phe Thr Ser Lys Leu Ala Leu Leu Gly Gln Val Phe Leu Asp Ser		
530	535	540

Ser

<210> 182

<211> 2056

<212> DNA

<213> Homo sapiens

<400> 182

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gcttctctggg ccggctctag aacaattcag gcttcgctgc gactcagacc 150  
tcagctccaa catatgcatt ctgaagaaa atggctgaga tggacagaat 200  
gctttatattt ggaaagaaac aatgttctag gtcaaaactga gtctacccaa 250  
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tggtttttct acgcattgat tccatgtttg ctcacagatg aagtggccat 350  
tctgctgcc cctcagaacc tctctgtact ctcaaccaac atgaagcatc 400  
tcttgatgtg gagcccagtg atcgcgcctg gagaaacagt gtactattct 450  
gtcgaatacc aggggggagta cgagagcctg tacacgagcc acatctggat 500  
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acctggttat tgagctggag gacctggggc ccagtttga gttcctgtg 750  
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gagtggggggt attccagtgc acctagaaac catggagcca ggggctgcat 850

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 gagcctgttg tctacaagtc tagaagcaac catcagaggc aggggtggtt 1350  
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 ggctgccact tgctggctga gcaacctctg gaaaagtac ttcattccctt 1450  
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 aaaaaa 2056

<210> 183  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-29  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 40-43, 134-137

<223> N-glycosylation sites.

<220>

<221> Tissue factor proteins homology

<222> 92-119

<223> Tissue factor proteins homology

<220>

<221> Transmembrane domain

<222> 230-255

<223> Transmembrane domain

<220>

<221> Integrins alpha chain protein homology

<222> 232-262

<223> Integrins alpha chain protein homology

<400> 183

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1 5 10 15

Phe Met Trp Phe Phe Tyr Ala Leu Ile Pro Cys Leu Leu Thr Asp  
20 25 30

Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser  
35 40 45

Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro  
50 55 60

Gly Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu  
65 70 75

Ser Leu Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser  
80 85 90

Leu Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala  
95 100 105

Thr Val Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln  
110 115 120

Thr Ser Ala Trp Ser Ile Leu Lys His Pro Phe Asn Arg Asn Ser  
125 130 135

Thr Ile Leu Thr Arg Pro Gly Met Glu Ile Thr Lys Asp Gly Phe  
140 145 150

His Leu Val Ile Glu Leu Glu Asp Leu Gly Pro Gln Phe Glu Phe  
155 160 165

Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala Glu Glu His Val  
170 175 180

Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu Glu Thr Met  
185 190 195

Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe Val Lys  
200 205 210

Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val Glu  
215 220 225





<210> 185  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 185  
aggcttcgct gcgactagac ctc 23

<210> 186  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
ccaggtcggg taaggatggt tgag 24

<210> 187  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
tttctaogca ttgattccat gtttgcac agatgaagtg gccattctgc 50

<210> 188  
<211> 1227  
<212> DNA  
<213> Homo sapiens

<400> 188  
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ggcagcggcg tggtgctcc tgtgggtgc gccctgcgcg cagcaggagc 100  
aggacttcta cgacttcaag gcgtcaaca tccggggcaa actggtgtgc 150  
ctggagaagt acgcggatc ggtgtccctg gtggtgaatg tggccagcga 200  
gtgcggcttc acagaccagc actaccgagc cctgcagcag ctgcagcgag 250  
acctgggccc ccaccacttt aacgtgctcg ccttcccctg caaccagttt 300  
ggccaacagg agcctgacag caacaaggag attgagagct ttgccgcgcg 350  
cacctacagt gtctattcc ccatgttttag caagattgca gtcacggta 400  
ctggtgccca tctgccttc aagtacctgg cccagacttc tgggaaggag 450  
cccacctgga acttctggaa gtacctagta gcccagatg gaaaggtggt 500  
aggggcttgg gacccaactg tgtcagtgga ggaggtcaga cccagatca 550  
cagcgctcgt gaggaagctc atcctactga agcgagaaga cttataacca 600

ccgcgtctcc tcctccacca cctcatcccg ccacactgtg tggggctgac 650  
 caatgc aaac tcaaatgggtg cttcaaaggg agagaccac tgactctcct 700  
 tcctttactc ttatgccatt ggtcccatca ttcttgggg gaaaaattc 750  
 tagtattttg attatttgaa tcttacagca acaaatagga actcctggcc 800  
 aatgagagct cttgaccagt gaatcaccag ccatagacaa cgtcttgcca 850  
 acaaaaatgt gtggcaaata gaagtatac aagcaataat cccccacca 900  
 aggcttctgt aaactgggac caatgattac ctcatagggc tgttgtgagg 950  
 attaggatga aatacctgtg aaagtgccta ggcagtgcc a gcaaatagg 1000  
 aggcattcaa tgaacatttt ttgcatataa accaaaaaat aacttgttat 1050  
 caataaaaac ttgcatccaa catgaatttc cagccgatga taatccaggc 1100  
 caaagggtta gttgttgta tttcctctgt attattttct tcattacaaa 1150  
 agaaatgc aa gttcattgta acaatccaaa caatacctca cgatataaaa 1200  
 taaaaatgaa agtatcctcc tcaaaaa 1227

<210> 189

<211> 187

<212> PRT

<213> Homo sapiens

<400> 189

Met	Val	Ala	Ala	Thr	Val	Ala	Ala	Ala	Trp	Leu	Leu	Leu	Trp	Ala	1	5	10	15
Ala	Ala	Cys	Ala	Gln	Gln	Glu	Gln	Asp	Phe	Tyr	Asp	Phe	Lys	Ala	20	25	30	
Val	Asn	Ile	Arg	Gly	Lys	Leu	Val	Ser	Leu	Glu	Lys	Tyr	Arg	Gly	35	40	45	
Ser	Val	Ser	Leu	Val	Val	Asn	Val	Ala	Ser	Glu	Cys	Gly	Phe	Thr	50	55	60	
Asp	Gln	His	Tyr	Arg	Ala	Leu	Gln	Gln	Leu	Gln	Arg	Asp	Leu	Gly	65	70	75	
Pro	His	His	Phe	Asn	Val	Leu	Ala	Phe	Pro	Cys	Asn	Gln	Phe	Gly	80	85	90	
Gln	Gln	Glu	Pro	Asp	Ser	Asn	Lys	Glu	Ile	Glu	Ser	Phe	Ala	Arg	95	100	105	
Arg	Thr	Tyr	Ser	Val	Ser	Phe	Pro	Met	Phe	Ser	Lys	Ile	Ala	Val	110	115	120	
Thr	Gly	Thr	Gly	Ala	His	Pro	Ala	Phe	Lys	Tyr	Leu	Ala	Gln	Thr	125	130	135	
Ser	Gly	Lys	Glu	Pro	Thr	Trp	Asn	Phe	Trp	Lys	Tyr	Leu	Val	Ala	140	145	150	
Pro	Asp	Gly	Lys	Val	Val	Gly	Ala	Trp	Asp	Pro	Thr	Val	Ser	Val				

155 160 165  
 Glu Glu Val Arg Pro Gln Ile Thr Ala Leu Val Arg Lys Leu Ile  
 170 175 180  
 Leu Leu Lys Arg Glu Asp Leu  
 185

<210> 190  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 190  
 gcaggacttc tacgacttca aggc 24

<210> 191  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 191  
 agtctgggcc aggtacttga aggc 24

<210> 192  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 192  
 caacatccgg ggcaaaactgg tgctcgtgga gaagtaccgc ggatcgggtg 50

<210> 193  
 <211> 2187  
 <212> DNA  
 <213> Homo sapiens

<400> 193  
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 acgtcgggat gctgcgcctg gggaggctgt cgcgcgggag ctggggggtg 100  
 ctggggggccc gggccgcctt ctctcggagt tggcaggaag ccaggttgca 150  
 ggggtgtccc ttctcagtt ccagagaggt ggatcgcagt gtctccacgc 200  
 ccactcgagg cctcagctac gttcagggt gcacacaaaa gcatcttaac 250  
 agcaagactg tgggcoagt cctggagacc acagcacaga gggtcccaga 300  
 acgagaggcc ttggctgtcc tccatgaaga cgtcagggtg acctttgccc 350  
 aactcaagga ggaggtggac aaagctgctt ctggcctcct gacattggc 400

ctctgc aaag gtgacc ggct gggcatgtgg ggacctaact cctatgcatg 450  
 ggtgtcctatg cagttggcca ccgcccaggc gggcatcatt ctggtgtctg 500  
 tgaaccaccg ctaccaggct atggaactgg agtatgtcct caagaagggtg 550  
 ggctgc aaag cccttgtgtt cccaagcaa ttcaagacc agcaatacta 600  
 caacgtcctg aagcagatct gtccagaagt ggagaatgcc cagccagggg 650  
 ccttgaagag tcagaggctc ccagatctga ccacagtcct ctgggtggat 700  
 gcccttttcg cggggaccct gtcctggat gaagtgggtg cggctggcag 750  
 cacacggcag catctggacc agtccaata caaccagcag ttctgtcct 800  
 gccatgacc catcaacatc cagttcacct cggggacaac aggcagcccc 850  
 aagggggcca ccctctccca ctacaacatt gtcaacaact ccaacatttt 900  
 aggagagcgc ctgaaactgc atgagaagac accagagcag ttgcggatga 950  
 tctgcacca cccctgtac cattgcctgg gttccgtggc aggcacaatg 1000  
 atgtgtctga tgtacggtgc caccctcctc ctggcctctc ccatcttcaa 1050  
 tggcaagaag gcactggagg ccatcagcag agagagaggc accttctctg 1100  
 atggtacccc cagcatgttc gtggacatcc tgaaccagcc agactttctc 1150  
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 acctccagag ttgatccgag ccatcatcaa caagataaat atgaaggacc 1250  
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 ttccctgagg acactgtgga gcagaaggca gaaagcgtgg gcagaattat 1350  
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 gttttgcaca aactaccccc tcaccatttc aggaaagatc cagaaattca 1850  
 aacttcgaga gcagatggaa cgacatctaa atctgtgaat aaagcagcag 1900  
 gcctgtcctg gccggtggc ttgactctct cctgtcagaa tgcaacctgg 1950  
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aatgtcaagg aattgactga acgaactaag agctcctgga tgggtccggg 2050  
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ccctcctgtc catccccac attccctgt ctgtcctgt gatttggcat 2150  
aaagagcttc tgttttcttt gaaaaaaaa aaaaaa 2187

<210> 194  
<211> 615  
<212> PRT  
<213> Homo sapiens

<400> 194  
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Gly Ser Ser Gly Val Leu Gly Ala Arg Ala Ala Leu Ser Arg Ser  
20 25 30  
Trp Gln Glu Ala Arg Leu Gln Gly Val Arg Phe Leu Ser Ser Arg  
35 40 45  
Glu Val Asp Arg Met Val Ser Thr Pro Ile Gly Gly Leu Ser Tyr  
50 55 60  
Val Gln Gly Cys Thr Lys Lys His Leu Asn Ser Lys Thr Val Gly  
65 70 75  
Gln Cys Leu Glu Thr Thr Ala Gln Arg Val Pro Glu Arg Glu Ala  
80 85 90  
Leu Val Val Leu His Glu Asp Val Arg Leu Thr Phe Ala Gln Leu  
95 100 105  
Lys Glu Glu Val Asp Lys Ala Ala Ser Gly Leu Leu Ser Ile Gly  
110 115 120  
Leu Cys Lys Gly Asp Arg Leu Gly Met Trp Gly Pro Asn Ser Tyr  
125 130 135  
Ala Trp Val Leu Met Gln Leu Ala Thr Ala Gln Ala Gly Ile Ile  
140 145 150  
Leu Val Ser Val Asn Pro Ala Tyr Gln Ala Met Glu Leu Glu Tyr  
155 160 165  
Val Leu Lys Lys Val Gly Cys Lys Ala Leu Val Phe Pro Lys Gln  
170 175 180  
Phe Lys Thr Gln Gln Tyr Tyr Asn Val Leu Lys Gln Ile Cys Pro  
185 190 195  
Glu Val Glu Asn Ala Gln Pro Gly Ala Leu Lys Ser Gln Arg Leu  
200 205 210  
Pro Asp Leu Thr Thr Val Ile Ser Val Asp Ala Pro Leu Pro Gly  
215 220 225  
Thr Leu Leu Leu Asp Glu Val Val Ala Ala Gly Ser Thr Arg Gln  
230 235 240  
His Leu Asp Gln Leu Gln Tyr Asn Gln Gln Phe Leu Ser Cys His



560	565	570
Ala Phe Cys Lys Lys Gly Lys Ile Ser His Phe Lys Ile Pro Lys Tyr		
575	580	585
Ile Val Phe Val Thr Asn Tyr Pro Leu Thr Ile Ser Gly Lys Ile		
590	595	600
Gln Lys Phe Lys Leu Arg Glu Gln Met Glu Arg His Leu Asn Leu		
605	610	615

<210> 195  
 <211> 642  
 <212> DNA  
 <213> Homo sapiens

<400> 195  
 caactccaac attttagggag agcgccctgaa actgcatgag aagacaccag 50  
 agcagttgag gatgatctg cccaaccccc tgtaccattg cctgggttcc 100  
 gtggcaggca caatgatgtg tctgatgtac ggtgccacc tcatectggc 150  
 ctctcccatc ttcaatggca agaaggcact ggaggccatc agcagagaga 200  
 gaggcacott cctgtatggt acccccacga tgttcgtgga cattctgaac 250  
 cagccgaact tctccagtta tgacatctcg accatgtgtg gaggtgtcat 300  
 tgctgggtcc cctgcacctc cagagttgat ccgagccatc atcaacaaga 350  
 taaatatgaa ggacctggtg gttgcttatg gaaccacaga gaacagtccc 400  
 gtgacattcg cgcacttccc tgaggacact gtggagcaga aggcagaaag 450  
 cgtgggcaga attatgcctc aacgggagcg gcggatcatg aacatggagg 500  
 cagggacgct ggcaaagctg aacacgcccg gggagctgtg catccgaggg 550  
 tactgcgtca tgcctgggcta ctggggtgag cctcagaaga cagaggaagc 600  
 agtggatcag gacaagtggg attggacagg agatgtcgcc ac 642

<210> 196  
 <211> 1575  
 <212> DNA  
 <213> Homo sapiens

<400> 196  
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 gatctggact gcaggctggc tgcgtgtgct gctgcttcgc ggaggagcgc 100  
 aggccttgga gtgctacagc tgcgtgcaga aagcagatga cggatgtctc 150  
 ccgaacaaga tgaagacagt gaagtgcgcg cggggcgtg acgtctgca 200  
 cgaggccgtg ggggcggtg agaccatcca cggacaattc tcgctggcag 250  
 tgcgggggtg cggttcgga ctccccggca agaatgaccg cggcctggat 300  
 cttcacgggc ttctggcggt catccagctg cagcaatgcg ctcaggatcg 350



ctgcaacgcc aagctcaacc tcacctcgcg ggcgctcgac cggcaggta 400  
 atgagagtgc ataccgcccc aacggcggtg agtgctacag ctgtgtgggc 450  
 ctgagccggg aggcgtgccca gggtagatcg ccgcccgtcg tagctgcta 500  
 caacgccagc gatcatgtct acaagggtcg ctctgacggc aacgtcacct 550  
 tgacggcagc taatgtgact gtgtccttgc ctgtccgggg ctgtgtccag 600  
 gatgaattct gactcggga tggagtaaca ggcacagggt tcacgctcag 650  
 tggctcctgt tggcaggggt ccgctgttaa ctctgacctc cgcaacaaga 700  
 cctacttttc cctcgaatc ccaccccttg tccggtgc ccctccagag 750  
 cccacgactg tggcctcaac cacatctgtc accacttcta cctcgcccc 800  
 agtgagacc acatccacca ccaaacccat gccagcgcca accagtcaga 850  
 ctccagagaca gggagtagaa cacgaggcct ccggggatga ggagcccagg 900  
 ttgactggag cgcgcgctgg ccaccaggac cgcagcaatt cagggcagta 950  
 tctgcaaaa ggggggcccc agcagcccca taataaaggc tgtgtggctc 1000  
 ccacagctgg attggcagcc cttctgttgg ccgtggctgc tgggtgccta 1050  
 ctgtgagctt ctccacctgg aaatttcct ctcacctact tctctggccc 1100  
 tgggtacccc tcttctcctc acttctgtt ccaccactg gactgggctg 1150  
 gcccagcccc tgtttttcca acattcccca gtatccccag cttctgtctc 1200  
 gctggtttgc ggctttggga aataaaatac cgttgtatat attctgccag 1250  
 ggggtgttcta gctttttgag gacagctcct gtatccttct catccttctc 1300  
 tctccgcttg tctcttctg atgttaggac agagtggag aagtcagctg 1350  
 tcacggggaa ggtgagagag aggatgctaa gcttctact cactttctcc 1400  
 tagccagcct ggactttgga gcgtgggggt ggtgggacaa tggctcccca 1450  
 ctctaagcac tgcctccct actccccgca tctttgggga atcggttccc 1500  
 catatgtctt ccttactaga ctgtgagctc ctcgaggggg ggcccgttac 1550  
 ccaattcgcc ctatagtga tctga 1575

<210> 197  
 <211> 346  
 <212> PRT  
 <213> Homo sapiens

<400> 197  
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 Ala Gly Trp Leu Leu Leu Leu Leu Arg Gly Gly Ala Gln Ala  
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 Leu Glu Cys Tyr Ser Cys Val Gln Lys Ala Asp Asp Gly Cys Ser

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<210> 198  
 <211> 1657  
 <212> DNA  
 <213> Homo sapiens

<400> 198  
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 gtctcggcca gtgcagctga aaaggagaag gaaatggacc cttttcatta 150  
 tgattaccag accctgagga ttgggggact ggtgttcgct gtggtcctct 200  
 tctcggttgg gatcctcctt atcctaagtc gcaggtgcaa gtgcagtttc 250  
 aatcagaagc cccgggcccc aggagatgag gaagcccagg tggagaacct 300  
 catcaccgcc aatgcaacag agccccagaa gcagagaact gaagtgcagc 350  
 catcaggtag aagcctcttg aacctgaggc ggctgcttga acctttgat 400  
 gcaaattgct atgcttaaga aaaccggcca ctcagcaac agccctttcc 450  
 ccaggagaag ccaagaactt gtgtgtcccc caccctatcc cctctaacac 500  
 cattcctcca cctgatgatg caactaacac ttgcctcccc actgcagcct 550  
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 ggatgcgtag ggtaagagca cgggcagtgg tcttcagtcg tcttgggacc 850  
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 cctttaacaa aaacottgct tctttatccc acctgatccc agtctgaagg 950  
 tctcttagca actggagata caaagcaagg agctggtgag ccagcgttg 1000  
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 cctgcttctg agacttcaat ctacagccca gctcatccag atgcagacta 1250  
 cagtcctctg aattgggtct ctggcaggca atagttgaag gactcctgtt 1300  
 ccgttggggc cagcacaccg ggatggatgg agggagagca gaggcctttg 1350  
 cttctctgcc tacgtccct tagatgggca gcagaggcaa ctccgcctc 1400

ctttgctctg cctgtcgggtg gtcagagcgg tgagcgaggt gggttgaga 1450  
ctcagcagcg tccgtgcagc ccttggaac agtgagaggt tgaaggtcat 1500  
aacgagagtg ggaactcaac ccagatcccg cccctcctgt cctctgtgtt 1550  
cccgcggaac ccaaccaaac cgtgcgctgt gaccattcgc tgttctctgt 1600  
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gtttect 1657

<210> 199  
<211> 120  
<212> PRT  
<213> Homo sapiens

<400> 199  
Met Glu Leu Val Leu Val Phe Leu Cys Ser Leu Leu Ala Pro Met  
1 5 10 15  
Val Leu Ala Ser Ala Glu Lys Glu Lys Glu Met Asp Pro Phe  
20 25 30  
His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala  
35 40 45  
Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg  
50 55 60  
Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu  
65 70 75  
Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro  
80 85 90  
Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp  
95 100 105  
Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala  
110 115 120

<210> 200  
<211> 415  
<212> DNA  
<213> Homo sapiens

<400> 200  
aaacttgacg coactgaagat cccggctcct cctgcogtgg tgctcctctc 50  
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aagaaagcac cattgagaat tatgcgtcac gaccggaggg ctttaacacc 150  
ccgttctcga acatcgacaa attgcgatct gcgtttaagg ctgatgagtt 200  
cctgaactgg cagccctctt ttgagtctat caaaaggaaa cttcctttcc 250  
tcaactggga tgcccttctt aagctgaaag gactgaggag cgcaactcct 300  
gatgcccaat gaccatgacc tccactggaa gagggggcta gcgtgagcgc 350  
tgattctcaa cctaccataa ctctttctct cctcaggaac tccaataaaa 400

cattttccat ccaaa 415

<210> 201

<211> 99

<212> PRT

<213> Homo sapiens

<400> 201

Met Lys Ile Pro Val Leu Pro Ala Val Val Leu Leu Ser Leu Leu  
1 5 10 15  
Val Leu His Ser Ala Gln Gly Ala Thr Leu Gly Gly Pro Glu Glu  
20 25 30  
Glu Ser Thr Ile Glu Asn Tyr Ala Ser Arg Pro Glu Ala Phe Asn  
35 40 45  
Thr Pro Phe Leu Asn Ile Asp Lys Leu Arg Ser Ala Phe Lys Ala  
50 55 60  
Asp Glu Phe Leu Asn Trp His Ala Leu Phe Glu Ser Ile Lys Arg  
65 70 75  
Lys Leu Pro Phe Leu Asn Trp Asp Ala Phe Pro Lys Leu Lys Gly  
80 85 90  
Leu Arg Ser Ala Thr Pro Asp Ala Gln  
95

<210> 202

<211> 678

<212> DNA

<213> Homo sapiens

<400> 202

cagttctgaa atcaatggag ttaatttagg gaatacaaac cagccatggg 50  
ggtggagatt gcctttgcct cagtgtattct cacctgcctc tcccttctgg 100  
cagcaggagt ctcccagggt gttcttctcc agccagttcc aactcaggag 150  
acaggtccca aggccatggg agatctctcc tgtggctttg ccggccactc 200  
atgagagtgt ttttgtgtaa agtatTTTTT agaatactgt tgacttcttc 250  
atgatttaat aacctcctt tgcgaagttt tatgaggctt taggggaatg 300  
tcaaccctca aatttttggt atactagatg gcttcattt acccaccact 350  
attttaaggt ccctttattt ttaggttcaa ggttcatttg acttgagaaa 400  
gtgccctctt gcagcttcat tgattttggt tatcttcaact attaattgta 450  
acgattaaaa aagaataaga gcacgcagac ctctaggaga atattttatc 500  
cctgggtgcc cctgacacat ttatgtagtg atcccacaaa tgtgattggt 550  
aatttaaatg ttattctaat attagtacat tcagttgtga tgtaatatga 600  
ataaccagaa tctatttctt aaaagttttg agtatatttt tcaactagat 650  
atttgtatag aaagactgaa tagtgatg 678

<210> 203  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens

<400> 203  
 Met Gly Val Glu Ile Ala Phe Ala Ser Val Ile Leu Thr Cys Leu  
 1 5 10 15  
 Ser Leu Leu Ala Ala Gly Val Ser Gln Val Val Leu Leu Gln Pro  
 20 25 30  
 Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser  
 35 40 45  
 Cys Gly Phe Ala Gly His Ser  
 50

<210> 204  
 <211> 1917  
 <212> DNA  
 <213> Homo sapiens

<400> 204  
 ggggaatctg cagtaggtct gccggcgatg gagggtggg ctagctcgcc 50  
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 agaaggagtc aggttcaaaa tggaaagtat ttattgacca aattaacagg 150  
 tctttggaga attacgaacc atgttcaagt caaaactgca gctgctacca 200  
 tgggtgcata gaagaggatc taactccttt ccgaggagcg atctccagga 250  
 agatgatggc agaggtagtc agacggaagc tagggaccoc ctatcagatc 300  
 actaagaaca gactgtaccg ggaaaatgac tgcattgttc cctcaagggtg 350  
 tagtggtgtt gagcacttta ttttggaagt gatcgggcgt ctccctgaca 400  
 tggagatggt gatcaatgta cgagattatc ctcagggttc taaatggatg 450  
 gagcctgccca tcccagtcct ctccctcagt aagacatcag agtaccatga 500  
 tatcatgtat cctgcttgga catttttgga agggggaccc gctgtttggc 550  
 caatttatcc tacagggtctt ggacgggtgg acctcttcag agaagatctg 600  
 gtaaggtcag cagcacagtg gccatggaaa aagaaaaact ctacagcata 650  
 tttccgagga tcaaggacaa gtccagaaag agatcctctc attctctctg 700  
 ctccgaaaaa cccaaaactt gttgatgcag aatacaccaa aaaccaggcc 750  
 tggaaatcta tgaaagatac cttaggaaag ccagctgcta aggatgtcca 800  
 tcttgtggat cactgcaaat acaagtatct gtttaatttt cgaggcgtag 850  
 ctgcaagttt ccggtttaaa caccctcttc tgtgtggctc acttgttttc 900  
 catgttggtg atgagtggtc agaattcttc tatccacagc tgaagccatg 950  
 ggttcactat atccagtcga aaacagatct ctccaatgtc caagagctgt 1000

tacaatttgt aaaagcaaat gatgatgtag ctcaagagat tgctgaaagg 1050  
 ggaagccagt ttattaggaa ccatttgcag atggatgaca tcacctgtta 1100  
 ctgggagaac ctcttgagt aataactctaa attcctgtct tataatgtaa 1150  
 cgagaaggaa aggttatgat caaattattc ccaaatgtt gaaaactgaa 1200  
 ctatagtagt catcatagga ccatagtcct ctttgggca acagatctca 1250  
 gatatcctac ggtgagaagc ttaccataag cttggctcct ataccttgaa 1300  
 tatctgctat caagccaaat acctggtttt ctttatcatg ctgcaccocag 1350  
 agcaactctt gagaagatt taaaatgtgt ctaatacact gatatgaagc 1400  
 agttcaactt tttggatgaa taaggaccag aaatcgtgag atgtggattt 1450  
 tgaaccaac tctaccttct attttcttaa gaccaatcac agcttgtgcc 1500  
 tcagatcatc cacctgtgtg agtccatcac tgtgaaattg actgtgtcca 1550  
 tgtgatgatg cctttgtgcc cattatttgg agcagaaaaa tcgtcatttg 1600  
 gaagtagtac aactcattgc tggaattgtg aaattattca agcggtgatc 1650  
 tctgtcactt tattttaatg taggaaaccc tatggggttt atgaaaaata 1700  
 cttggggatc attctctgaa tgggtctaagg aagcggtagc catgccatgc 1750  
 aatgatgtag gagttctctt ttgtaaaacc ataaactctg ttactcagga 1800  
 ggtttctata atgcoacata gaaagaggcc aattgcatga gtaattattg 1850  
 caattggatt tcagggtccc tttttgtgcc ttcatgccct acttcttaat 1900  
 gcctctctaa agccaaa 1917

<210> 205  
 <211> 392  
 <212> PRT  
 <213> Homo sapiens

<400> 205  
 Met Glu Trp Trp Ala Ser Ser Pro Leu Arg Leu Trp Leu Leu Leu  
 1 5 10 15  
 Phe Leu Leu Pro Ser Ala Gln Gly Arg Gln Lys Glu Ser Gly Ser  
 20 25 30  
 Lys Trp Lys Val Phe Ile Asp Gln Ile Asn Arg Ser Leu Glu Asn  
 35 40 45  
 Tyr Glu Pro Cys Ser Ser Gln Asn Cys Ser Cys Tyr His Gly Val  
 50 55 60  
 Ile Glu Glu Asp Leu Thr Pro Phe Arg Gly Gly Ile Ser Arg Lys  
 65 70 75  
 Met Met Ala Glu Val Val Arg Arg Lys Leu Gly Thr His Tyr Gln  
 80 85 90  
 Ile Thr Lys Asn Arg Leu Tyr Arg Glu Asn Asp Cys Met Phe Pro

	95		100		105
Ser Arg Cys Ser Gly Val Glu His Phe	110	Ile Leu Glu Val Ile Gly	115	120	
Arg Leu Pro Asp Met Glu Met Val Ile	125	Asn Val Arg Asp Tyr Pro	130	135	
Gln Val Pro Lys Trp Met Glu Pro Ala	140	Ile Pro Val Phe Ser Phe	145	150	
Ser Lys Thr Ser Glu Tyr His Asp Ile	155	Met Tyr Pro Ala Trp Thr	160	165	
Phe Trp Glu Gly Gly Pro Ala Val Trp	170	Pro Ile Tyr Pro Thr Gly	175	180	
Leu Gly Arg Trp Asp Leu Phe Arg Glu	185	Asp Leu Val Arg Ser Ala	190	195	
Ala Gln Trp Pro Trp Lys Lys Lys Asn	200	Ser Thr Ala Tyr Phe Arg	205	210	
Gly Ser Arg Thr Ser Pro Glu Arg Asp	215	Pro Leu Ile Leu Leu Ser	220	225	
Arg Lys Asn Pro Lys Leu Val Asp Ala	230	Glu Tyr Thr Lys Asn Gln	235	240	
Ala Trp Lys Ser Met Lys Asp Thr Leu	245	Gly Lys Pro Ala Ala Lys	250	255	
Asp Val His Leu Val Asp His Cys Lys	260	Tyr Lys Tyr Leu Phe Asn	265	270	
Phe Arg Gly Val Ala Ala Ser Phe Arg	275	Phe Lys His Leu Phe Leu	280	285	
Cys Gly Ser Leu Val Phe His Val Gly	290	Asp Glu Trp Leu Glu Phe	295	300	
Phe Tyr Pro Gln Leu Lys Pro Trp Val	305	His Tyr Ile Pro Val Lys	310	315	
Thr Asp Leu Ser Asn Val Gln Glu Leu	320	Leu Gln Phe Val Lys Ala	325	330	
Asn Asp Asp Val Ala Gln Glu Ile Ala	335	Glu Arg Gly Ser Gln Phe	340	345	
Ile Arg Asn His Leu Gln Met Asp Asp	350	Ile Thr Cys Tyr Trp Glu	355	360	
Asn Leu Leu Ser Glu Tyr Ser Lys Phe	365	Leu Ser Tyr Asn Val Thr	370	375	
Arg Arg Lys Gly Tyr Asp Gln Ile Ile	380	Pro Lys Met Leu Lys Thr	385	390	
Glu Leu					

<210> 206



<211> 1425  
 <212> DNA  
 <213> Homo sapiens

<400> 206  
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 ccctgcctc tttcatcctg gcctttggca ccggagtggg gtctgtgcgc 100  
 tttacctcc ttgcggccact tcttgaggg atcccgaggt ctggtggtcc 150  
 ggatgcccg cagggatggc tggctgcct gcaggaccgc agcatccttg 200  
 cccctcctg atgggatctg gggctcctgc ttctatttgt tgggcagcac 250  
 agcctcatgg cagctgaaag agtgaaggca tggacatccc ggtactttgg 300  
 ggtccttcag aggtcactgt atgtggcctg cactgcccgt gccttgacgc 350  
 tgggtgatgc gtactgggag ccataccca aaggccctgt gttgtgggag 400  
 gctcgggctg agccatgggc cacctgggtg ccgctcctct gctttgtgct 450  
 ccattgtcat tctgggtccc tcatcttttag catccttctc gtctttgact 500  
 atgtctgagt catgggcctc aaacagggtat actaccatgt gctggggctg 550  
 ggcgagcctc tggccctgaa gtctcccccgt gctctcagac tcttctccca 600  
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 ctacctggg cagggaacct ctctccttg ctttctcct taccctctac 700  
 ctgggccttg ctcaogggtc tgatcagcaa gaectccgt acctccgggc 750  
 ccagctacaa agaaaactcc aactgctctc tcggccccag gatggggagg 800  
 cagagtgagg agctcactct ggttacaagc cctgtttctc ctctccact 850  
 gaattctaaa tccttaacat ccaggccctg gctgcttcat gccagaggcc 900  
 caaatccatg gactgaagga gatgccctt ctactacttg agactttatt 950  
 ctctgggtcc agctccatac cctaaattct gagtttcagc cactgaactc 1000  
 caaggctcac ttctaccag caaggaagag tggggtatgg aagtcactgt 1050  
 tccttctact gtttagagca tgacctctc cccctcaaca gcctcctgag 1100  
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 cgccctcagg gtcccctctc gcaccgtggt cttccactcc aagaagggtg 1200  
 accagggtct gcaagttcaa cggctatago tgtccctcca ggccccaaac 1250  
 ttgcctcacc actccgggcc ctagtctctg cacctcctta ggccctgcct 1300  
 ctgggctcag accccaacct agtcaagggg attctcctgt tcttaactcg 1350  
 atgaectggg gctccctgct ctcccgagga agatgctctg caggaaaata 1400  
 aaagtcagcc tttttctaaa aaaaa 1425

<210> 207  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 207

Met	Ala	Pro	Ala	Leu	Leu	Leu	Ile	Pro	Ala	Ala	Leu	Ala	Ser	Phe	1	5	10	15
Ile	Leu	Ala	Phe	Gly	Thr	Gly	Val	Glu	Phe	Val	Arg	Phe	Thr	Ser	20	25	30	
Leu	Arg	Pro	Leu	Leu	Gly	Gly	Ile	Pro	Glu	Ser	Gly	Gly	Pro	Asp	35	40	45	
Ala	Arg	Gln	Gly	Trp	Leu	Ala	Ala	Leu	Gln	Asp	Arg	Ser	Ile	Leu	50	55	60	
Ala	Pro	Leu	Ala	Trp	Asp	Leu	Gly	Leu	Leu	Leu	Phe	Val	Gly		65	70	75	
Gln	His	Ser	Leu	Met	Ala	Ala	Glu	Arg	Val	Lys	Ala	Trp	Thr	Ser	80	85	90	
Arg	Tyr	Phe	Gly	Val	Leu	Gln	Arg	Ser	Leu	Tyr	Val	Ala	Cys	Thr	95	100	105	
Ala	Leu	Ala	Leu	Gln	Leu	Val	Met	Arg	Tyr	Trp	Glu	Pro	Ile	Pro	110	115	120	
Lys	Gly	Pro	Val	Leu	Trp	Glu	Ala	Arg	Ala	Glu	Pro	Trp	Ala	Thr	125	130	135	
Trp	Val	Pro	Leu	Leu	Cys	Phe	Val	Leu	His	Val	Ile	Ser	Trp	Leu	140	145	150	
Leu	Ile	Phe	Ser	Ile	Leu	Leu	Val	Phe	Asp	Tyr	Ala	Glu	Leu	Met	155	160	165	
Gly	Leu	Lys	Gln	Val	Tyr	Tyr	His	Val	Leu	Gly	Leu	Gly	Glu	Pro	170	175	180	
Leu	Ala	Leu	Lys	Ser	Pro	Arg	Ala	Leu	Arg	Leu	Phe	Ser	His	Leu	185	190	195	
Arg	His	Pro	Val	Cys	Val	Glu	Leu	Leu	Thr	Val	Leu	Trp	Val	Val	200	205	210	
Pro	Thr	Leu	Gly	Thr	Asp	Arg	Leu	Leu	Leu	Ala	Phe	Leu	Leu	Thr	215	220	225	
Leu	Tyr	Leu	Gly	Leu	Ala	His	Gly	Leu	Asp	Gln	Gln	Asp	Leu	Arg	230	235	240	
Tyr	Leu	Arg	Ala	Gln	Leu	Gln	Arg	Lys	Leu	His	Leu	Leu	Ser	Arg	245	250	255	
Pro	Gln	Asp	Gly	Glu	Ala	Glu									260			

<210> 208  
 <211> 2095  
 <212> DNA

<213> Homo sapiens

<400> 208

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gtagttcaca acagatctga gtgttttaat taagcatgga atacagaaaa 150  
caacaaaaaa cttaagcttt aatttcctct ggaattccac agttttctta 200  
gtccctcgga ccggttgac ctgttggtc ttcccgctgg ctgctctatc 250  
acgtggtgct ctccgactac tcaccccgag tgtaaagaac cttcggctcg 300  
cgtgcttctg agctgctgtg gatggcctcg gctctctgga ctgtccttcc 350  
gagtaggatg tcactgagat ccctcaaatg gagcctctcg ctgctgtcac 400  
tcttgagttt ctttgtgatg tggtaacctc gccttcccca ctacaatgtg 450  
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acaagacttt cacttcacac ttcgagagca ttcaaactgc tctcatcaaa 550  
atocatttct ggtcattctg gtgacctccc acccttcaga tgtgaaagcc 600  
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tgaggttctt acatttttct tattaggcca agaggctgaa aaggaagaca 700  
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atccgacaag attttttaga cacatataat aacotgacct tgaaaacccat 800  
tatggcattc aggtgggtaa ctgagttttg cccaatgcc aagtaagtaa 850  
tgaagacaga cactgatgtt ttoatcaata ctggcaattt agtgaagtat 900  
cttttaaaac taaaccactc agagaagttt ttcacaggtt atcctctaata 950  
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aggagtatcc tttcaaggtg ttccctccat actgcagtggt gttgggttat 1050  
ataatgtcca gagatttggt gccaaagatc tatgaaatga tgggtcacgt 1100  
aaaacccatc aagtttgaag atgtttatgt cgggactctgt ttgaatttat 1150  
taaaagtga cattcatatt ccagaagaca caaatctttt ctttctatat 1200  
agaatccatt tggatgtctg tcaactgaga cgtgtgattg cagcccatgg 1250  
cttttcttcc aaggagatca tcactttttg gcaggtoatg ctaaggaaca 1300  
ccacatgcca ttattaactt cacattctac aaaaagccta gaaggacagg 1350  
ataccttggt gaaagtgtta aataaagtag gtactgtgga aaattcatgg 1400  
ggaggctcag gtgctggctt acactgaact gaaactcatg aaaaacccag 1450  
actggagact ggagggttac acttggtgatt tattagtcag gcccttcaaa 1500

gatgataagt ggaggaatta aatataaagg aattggaggt ttttgctaaa 1550  
 gaaattaata ggaccaaaaca atttggacat gtcattctgt agactagaat 1600  
 ttcttaaaag ggtgttactg agttataaagc tcactaggct gtaaaaaaca 1650  
 aacaatgtag agttttattt attgaacaat gtagtcactt gaaggttttg 1700  
 tgttatcttt atgtggatta ccaatttaaa aatatatgta gttctgtgtc 1750  
 aaaaaacttc ttactgaag ttatactgaa caaaatttta cctgtttttg 1800  
 gtcatttata aagtacttca agatgttgca gtatttcaca gttattatta 1850  
 tttaaaatta ctccaacttt gtgtttttaa atgttttgac gatttcaata 1900  
 caagataaaa aggatagtga atcattcttt acatgcaaac atttccagt 1950  
 tacttaactg atcagtttat tattgataca tcactccatt aatgtaaagt 2000  
 cataggtcat tattgcatat cagtaatctc ttggactttg ttaaatattt 2050  
 tactgtgcta atatagagaa gaattaaagc aagaaaatct gaaaa 2095

<210> 209  
 <211> 331  
 <212> PRT  
 <213> Homo sapiens

<400> 209  
 Met Ala Ser Ala Leu Trp Thr Val Leu Pro Ser Arg Met Ser Leu  
 1 5 10 15  
 Arg Ser Leu Lys Trp Ser Leu Leu Leu Leu Ser Leu Leu Ser Phe  
 20 25 30  
 Phe Val Met Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu  
 35 40 45  
 Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg  
 50 55 60  
 Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His  
 65 70 75  
 Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp  
 80 85 90  
 Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys  
 95 100 105  
 Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln  
 110 115 120  
 Glu Ala Glu Lys Gln Asp Lys Met Leu Ala Leu Ser Leu Glu Asp  
 125 130 135  
 Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp  
 140 145 150  
 Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp  
 155 160 165

Val Thr Glu Phe Cys Pro Asn Ala Lys Tyr Val Met Lys Thr Asp  
170 175 180

Thr Asp Val Phe Ile Asn Thr Gly Asn Leu Val Lys Tyr Leu Leu  
185 190 195

Asn Leu Asn His Ser Glu Lys Phe Phe Thr Gly Tyr Pro Leu Ile  
200 205 210

Asp Asn Tyr Ser Tyr Arg Gly Phe Tyr Gln Lys Thr His Ile Ser  
215 220 225

Tyr Gln Glu Tyr Pro Phe Lys Val Phe Pro Pro Tyr Cys Ser Gly  
230 235 240

Leu Gly Tyr Ile Met Ser Arg Asp Leu Val Pro Arg Ile Tyr Glu  
245 250 255

Met Met Gly His Val Lys Pro Ile Lys Phe Glu Asp Val Tyr Val  
260 265 270

Gly Ile Cys Leu Asn Leu Leu Lys Val Asn Ile His Ile Pro Glu  
275 280 285

Asp Thr Asn Leu Phe Phe Leu Tyr Arg Ile His Leu Asp Val Cys  
290 295 300

Gln Leu Arg Arg Val Ile Ala Ala His Gly Phe Ser Ser Lys Glu  
305 310 315

Ile Ile Thr Phe Trp Gln Val Met Leu Arg Asn Thr Thr Cys His  
320 325 330

Tyr

<210> 210  
<211> 745  
<212> DNA  
<213> Homo sapiens

<400> 210  
cctctgtcca ctgctttcgt gaagacaaga tgaagttcac aattgtcttt 50  
gctggagcttc ttggagtctt tctagctcct gccctagcta actataatat 100  
caacgtcaat gatgacaaca acaatgctgg aagtgggcag cagtcagtga 150  
gtgtcaacaa tgaacacaat gtggccaatg ttgacaataa caacggatgg 200  
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<211> 185  
<212> PRT  
<213> Homo sapiens

<400> 211  
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Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu  
35 40 45  
His Asn Val Ala Asn Val Asp Asn Asn Asn Gly Trp Asp Ser Trp  
50 55 60  
Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu  
65 70 75  
Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val  
80 85 90  
Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys  
95 100 105  
Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met  
110 115 120  
Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly  
125 130 135  
Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala  
140 145 150  
Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys  
155 160 165  
Tyr Thr Thr Ser Val Leu Trp Ile Val Asp Ile Ser Phe Cys Gly  
170 175 180  
Asp Thr Val Glu Asn  
185

<210> 212  
<211> 1706  
<212> DNA  
<213> Homo sapiens

<400> 212  
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aaaagt 1706

<210> 213

<211> 299

<212> PRT

<213> Homo sapiens

<400> 213

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Glu	Thr	Ile	Ala	Cys	Ala	Cys	Ile	Tyr	Leu	Ala	Ala	Arg	Ala	Leu
				20					25					30
Gln	Ile	Pro	Leu	Pro	Thr	Arg	Pro	His	Trp	Phe	Leu	Leu	Phe	Gly
				35					40					45
Thr	Thr	Glu	Glu	Glu	Ile	Gln	Glu	Ile	Cys	Ile	Glu	Thr	Leu	Arg
				50					55					60
Leu	Tyr	Thr	Arg	Lys	Lys	Pro	Asn	Tyr	Glu	Leu	Leu	Glu	Lys	Glu
				65					70					75
Val	Glu	Lys	Arg	Lys	Val	Ala	Leu	Gln	Glu	Ala	Lys	Leu	Lys	Ala
				80					85					90
Lys	Gly	Leu	Asn	Pro	Asp	Gly	Thr	Pro	Ala	Leu	Ser	Thr	Leu	Gly
				95					100					105
Gly	Phe	Ser	Pro	Ala	Ser	Lys	Pro	Ser	Ser	Pro	Arg	Glu	Val	Lys
				110					115					120
Ala	Glu	Glu	Lys	Ser	Pro	Ile	Ser	Ile	Asn	Val	Lys	Thr	Val	Lys
				125					130					135
Lys	Glu	Pro	Glu	Asp	Arg	Gln	Gln	Ala	Ser	Lys	Ser	Pro	Tyr	Asn
				140					145					150
Gly	Val	Arg	Lys	Asp	Ser	Lys	Arg	Ser	Arg	Asn	Ser	Arg	Ser	Ala
				155					160					165
Ser	Arg	Ser	Arg	Ser	Arg	Thr	Arg	Ser	Arg	Ser	Arg	Ser	His	Thr
				170					175					180
Pro	Arg	Arg	His	Tyr	Asn	Asn	Arg	Arg	Ser	Arg	Ser	Gly	Thr	Lys
				185					190					195
Ser	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	His	Ser	Glu	Ser	Pro
				200					205					210
Arg	Arg	His	His	Asn	His	Gly	Ser	Pro	His	Leu	Lys	Ala	Lys	His
				215					220					225
Thr	Arg	Asp	Asp	Leu	Lys	Ser	Ser	Asn	Arg	His	Gly	His	Lys	Arg
				230					235					240
Lys	Lys	Ser	Arg	Ser	Arg	Ser	Gln	Ser	Lys	Ser	Arg	Asp	His	Ser
				245					250					255
Asp	Ala	Ala	Lys	Lys	His	Arg	His	Glu	Arg	Gly	His	His	Arg	Asp
				260					265					270
Arg	Arg	Glu	Arg	Ser	Arg	Ser	Phe	Glu	Arg	Ser	His	Lys	Ser	Lys



[illegible]

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 gcctctggtt gctggtggtg ctgtgcctgc tgcggctggc ggtgaccgg 1050  
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<210> 216

<211> 479  
 <212> PRT  
 <213> Homo sapiens

<400> 216

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Thr	Leu	Met	His	Arg	Leu	Ala	Pro	His	Cys	Ser	Phe	Ala	Arg	Trp
			20						25					30
Leu	Leu	Cys	Asn	Gly	Ser	Leu	Phe	Arg	Tyr	Lys	His	Pro	Ser	Glu
			35						40					45
Glu	Glu	Leu	Arg	Ala	Leu	Ala	Gly	Lys	Pro	Arg	Pro	Arg	Gly	Arg
			50						55					60
Lys	Glu	Arg	Trp	Ala	Asn	Gly	Leu	Ser	Glu	Glu	Lys	Pro	Leu	Ser
			65						70					75
Val	Pro	Arg	Asp	Ala	Pro	Phe	Gln	Leu	Glu	Thr	Cys	Pro	Leu	Thr
			80						85					90
Thr	Val	Asp	Ala	Leu	Val	Leu	Arg	Phe	Phe	Leu	Glu	Tyr	Gln	Trp
			95						100					105
Phe	Val	Asp	Phe	Ala	Val	Tyr	Ser	Gly	Gly	Val	Tyr	Leu	Phe	Thr
			110						115					120
Glu	Ala	Tyr	Tyr	Tyr	Met	Leu	Gly	Pro	Ala	Lys	Glu	Thr	Asn	Ile
			125						130					135
Ala	Val	Phe	Trp	Cys	Leu	Leu	Thr	Val	Thr	Phe	Ser	Ile	Lys	Met
			140						145					150
Phe	Leu	Thr	Val	Thr	Arg	Leu	Tyr	Phe	Ser	Ala	Glu	Glu	Gly	Gly
			155						160					165
Glu	Arg	Ser	Val	Cys	Leu	Thr	Phe	Ala	Phe	Leu	Phe	Leu	Leu	Leu
			170						175					180
Ala	Met	Leu	Val	Gln	Val	Val	Arg	Glu	Glu	Thr	Leu	Glu	Leu	Gly
			185						190					195
Leu	Glu	Pro	Gly	Leu	Ala	Ser	Met	Thr	Gln	Asn	Leu	Glu	Pro	Leu
			200						205					210
Leu	Lys	Lys	Gln	Gly	Trp	Asp	Trp	Ala	Leu	Pro	Val	Ala	Lys	Leu
			215						220					225
Ala	Ile	Arg	Val	Gly	Leu	Ala	Val	Val	Gly	Ser	Val	Leu	Gly	Ala
			230						235					240
Phe	Leu	Thr	Phe	Pro	Gly	Leu	Arg	Leu	Ala	Gln	Thr	His	Arg	Asp
			245						250					255
Ala	Leu	Thr	Met	Ser	Glu	Asp	Arg	Pro	Met	Leu	Gln	Phe	Leu	Leu
			260						265					270
His	Thr	Ser	Phe	Leu	Ser	Pro	Leu	Phe	Ile	Leu	Trp	Leu	Trp	Thr
			275						280					285
Lys	Pro	Ile	Ala	Arg	Asp	Phe	Leu	His	Gln	Pro	Pro	Phe	Gly	Glu

	290		295		300
Thr Arg Phe Ser	Leu Leu Ser Asp Ser	Ala Phe Asp Ser Gly	Arg		
	305		310		315
Leu Trp Leu Leu	Val Val Leu Cys Leu	Leu Arg Leu Ala Val	Thr		
	320		325		330
Arg Pro His Leu	Gln Ala Tyr Leu Cys	Leu Ala Lys Ala Arg	Val		
	335		340		345
Glu Gln Leu Arg	Arg Glu Ala Gly Arg	Ile Glu Ala Arg Glu	Ile		
	350		355		360
Gln Gln Arg Val	Val Arg Val Tyr Cys	Tyr Val Thr Val Val	Ser		
	365		370		375
Leu Gln Tyr Leu	Thr Pro Leu Ile Leu	Thr Leu Asn Cys Thr	Leu		
	380		385		390
Leu Leu Lys Thr	Leu Gly Gly Tyr Ser	Trp Gly Leu Gly Pro	Ala		
	395		400		405
Pro Leu Leu Ser	Pro Asp Pro Ser Ser	Ala Ser Ala Ala Pro	Ile		
	410		415		420
Gly Ser Gly Glu	Asp Glu Val Gln Gln	Thr Ala Ala Arg Ile	Ala		
	425		430		435
Gly Ala Leu Gly	Gly Leu Leu Thr Pro	Leu Phe Leu Arg Gly	Val		
	440		445		450
Leu Ala Tyr Leu	Ile Trp Trp Thr Ala	Ala Cys Gln Leu Leu	Ala		
	455		460		465
Ser Leu Phe Gly	Leu Tyr Phe His Gln	His Leu Ala Gly Ser			
	470		475		

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 <211> 574  
 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
 <221> unsure  
 <222> 5, 146  
 <223> unknown base

<400> 217  
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 ggaggagctt cgggccttg cggggaagcc gaggccaga ggcagaaaag 200  
 agcgtgtggc caatggcctt agtgaggaga agccactgtc tgtgccccga 250  
 gatgccccgt tccagctgga gacctgccc ctcacgaccg tggatgccct 300  
 ggtcctgcgc ttcttcttg agtacagtg gttgtggac tttgctgtgt 350

actcggggcg cgtgtacctc ttcacagagg cctactacta catgctggga 400  
ccagccaagg agactaacat tgctgtgttc tgggtgcctgc tcacagtgac 450  
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<210> 218  
<211> 2571  
<212> DNA  
<213> Homo sapiens

<400> 218  
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cacactgctc ggagaatgaa ggcgcttctg ttgctggtct tgccttggtc 250  
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cagaactctg taaagggtgc tccactacg gcctgaccaa agataggaag 350  
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cagccagcaa tcagcccagt ggactctggc cggagcaacc gaactagggc 550  
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cgtcgtgtcc cgccagggtc gccagcggag cectgacatc ttccaggaa 1350  
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ctgaagtctg ccaagggtac attatggcca tttttaatt acagctaaaa 2500  
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<210> 219  
<211> 632  
<212> PRT  
<213> Homo sapiens

<400> 219  
Met Lys Ala Leu Leu Leu Leu Val Leu Pro Trp Leu Ser Pro Ala



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335	340	345
Pro Glu Ser Ala Ala His Leu Ile Gln	Ala Ser Glu Arg Arg Val	
350	355	360
His Leu Val Val Ser Arg Gln Val Arg	Gln Arg Ser Pro Asp Ile	
365	370	375
Phe Gln Glu Ala Gly Trp Asn Ser Asn	Gly Ser Trp Ser Pro Gly	
380	385	390
Pro Gly Glu Arg Ser Asn Thr Pro Lys	Pro Leu His Pro Thr Ile	
395	400	405
Thr Cys His Glu Lys Val Val Asn Ile	Gln Lys Asp Pro Gly Glu	
410	415	420
Ser Leu Gly Met Thr Val Ala Gly Gly	Ala Ser His Arg Glu Trp	
425	430	435
Asp Leu Pro Ile Tyr Val Ile Ser Val	Glu Pro Gly Gly Val Ile	
440	445	450
Ser Arg Asp Gly Arg Ile Lys Thr Gly	Asp Ile Leu Leu Asn Val	
455	460	465
Asp Gly Val Glu Leu Thr Glu Val Ser	Arg Ser Glu Ala Val Ala	
470	475	480
Leu Leu Lys Arg Thr Ser Ser Ser Ile	Val Leu Lys Ala Leu Glu	
485	490	495
Val Lys Glu Tyr Glu Pro Gln Glu Asp	Cys Ser Ser Pro Ala Ala	
500	505	510
Leu Asp Ser Asn His Asn Met Ala Pro	Pro Ser Asp Trp Ser Pro	
515	520	525
Ser Trp Val Met Trp Leu Glu Leu Pro	Arg Cys Leu Tyr Asn Cys	
530	535	540
Lys Asp Ile Val Leu Arg Arg Asn Thr	Ala Gly Ser Leu Gly Phe	
545	550	555
Cys Ile Val Gly Gly Tyr Glu Glu Tyr	Asn Gly Asn Lys Pro Phe	
560	565	570
Phe Ile Lys Ser Ile Val Glu Gly Thr	Pro Ala Tyr Asn Asp Gly	
575	580	585
Arg Ile Arg Cys Gly Asp Ile Leu Leu	Ala Val Asn Gly Arg Ser	
590	595	600
Thr Ser Gly Met Ile His Ala Cys Leu	Ala Arg Leu Leu Lys Glu	
605	610	615
Leu Lys Gly Arg Ile Thr Leu Thr Ile	Val Ser Trp Pro Gly Thr	
620	625	630
Phe Leu		



<210> 220  
 <211> 773  
 <212> DNA  
 <213> Homo sapiens

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 gtttttaaca tcacagccc aagcaacaat ggtggcaatg ttcaggagac 200  
 agtgacaatt gataatgaaa aaaataccgc catcgttaac atccatgcag 250  
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 ctggagtctc tgatcaaaga cgtggattgg ttcctgcttg ggtcacccat 500  
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 tcaaatataa ttctttccca atgccccaac taattttgag attcagtoag 750  
 aaaatataaa tgcgtgattt ata 773

<210> 221  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
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 Ile Gln Ser His Gly Tyr Glu Val Phe Asn Ile Ile Ser Pro Ser  
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 Asn Asn Gly Gly Asn Val Gln Glu Thr Val Thr Ile Asp Asn Glu  
 35 40 45  
 Lys Asn Thr Ala Ile Val Asn Ile His Ala Gly Ser Cys Ser Ser  
 50 55 60  
 Thr Thr Ile Phe Asp Tyr Lys His Gly Tyr Ile Ala Ser Arg Val  
 65 70 75  
 Leu Ser Arg Arg Ala Cys Phe Ile Leu Lys Met Asp His Gln Asn  
 80 85 90

Ile Pro Pro Leu Asn Asn Leu Gln Trp Tyr Ile Tyr Glu Lys Gln  
95 100 105

Ala Leu Asp Asn Met Phe Ser Asn Lys Tyr Thr Trp Val Lys Tyr  
110 115 120

Asn Pro Leu Glu Ser Leu Ile Lys Asp Val Asp Trp Phe Leu Leu  
125 130 135

Gly Ser Pro Ile Glu Lys Leu Cys Lys His Ile Pro Leu Tyr Lys  
140 145 150

Gly Glu Val Val Glu Asn Thr His Asn Val Gly Ala Gly Gly Cys  
155 160 165

Ala Lys Ala Gly Leu Leu Gly Ile Leu Gly Ile Ser Ile Cys Ala  
170 175 180

Asp Ile His Val

<210> 222

<211> 992

<212> DNA

<213> Homo sapiens

<400> 222

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tgccagcagc ttctccaagg caccggaggga agaaattacc cctgtgtgtc 150

ccattgccta caaagtcttg gaagttttcc ccaaaggccg ctgggtgtgc 200

ataacctgct gtgcaccca gccaccaccg cccatcacct attccctctg 250

tggaaccaag aacatcaagg tggccaagaa ggtggtgaag acccagcagc 300

cggctcctct caacctcaac gtcacactca agtcacgtcc agacctgtgc 350

acctacttct gccgggctgc ctccacctca ggtgcccatg tggacagtgc 400

caggctacag atgcactggg agctgtgggc caagccagtg tctgagctgc 450

gggccaactt cactctgcag gacagagggg caggcccccg ggtggagatg 500

atctgccagg cgtctcggg cagcccacct atcaccaaca gcctgatcgg 550

gaaggatggg cagggtccacc tgcagcagag accatgccac aggcagcctg 600

ccaacttctc ctctctgccg agccagacat cggactggtt tgggtgccag 650

gctgcaaaca acgccaatgt ccagcacagc gccctcacag tgggtccccc 700

aggtggtgac cagaagatgg aggactggca gggttccctg gagagcccca 750

tccttgcctt gccgtcttac aggagcaccg gccgtctgag tgaagaggag 800

tttggggggg tcaggatagg gaatggggag gtcagaggag gcaaagcagc 850

agccatgtag aatgaaccgt ccagagagcc aagcacggca gaggactgca 900

ggccatcagc gtgcaactgtt cgtattttgga gttcatgcaa aatgagtgtg 950  
 ttttagctgc tcttgccaca aaaaaaaaaa aaaaaaaaaa aa 992

<210> 223

<211> 265

<212> PRT

<213> Homo sapiens

<400> 223

Met	Gly	Leu	Pro	Gly	Leu	Phe	Cys	Leu	Ala	Val	Leu	Ala	Ala	Ser
1				5					10					15
Ser	Phe	Ser	Lys	Ala	Arg	Glu	Glu	Glu	Ile	Thr	Pro	Val	Val	Ser
				20					25					30
Ile	Ala	Tyr	Lys	Val	Leu	Glu	Val	Phe	Pro	Lys	Gly	Arg	Trp	Val
				35					40					45
Leu	Ile	Thr	Cys	Cys	Ala	Pro	Gln	Pro	Pro	Pro	Pro	Ile	Thr	Tyr
				50					55					60
Ser	Leu	Cys	Gly	Thr	Lys	Asn	Ile	Lys	Val	Ala	Lys	Lys	Val	Val
				65					70					75
Lys	Thr	His	Glu	Pro	Ala	Ser	Phe	Asn	Leu	Asn	Val	Thr	Leu	Lys
				80					85					90
Ser	Ser	Pro	Asp	Leu	Leu	Thr	Tyr	Phe	Cys	Arg	Ala	Ser	Ser	Thr
				95					100					105
Ser	Gly	Ala	His	Val	Asp	Ser	Ala	Arg	Leu	Gln	Met	His	Trp	Glu
				110					115					120
Leu	Trp	Ser	Lys	Pro	Val	Ser	Glu	Leu	Arg	Ala	Asn	Phe	Thr	Leu
				125					130					135
Gln	Asp	Arg	Gly	Ala	Gly	Pro	Arg	Val	Glu	Met	Ile	Cys	Gln	Ala
				140					145					150
Ser	Ser	Gly	Ser	Pro	Pro	Ile	Thr	Asn	Ser	Leu	Ile	Gly	Lys	Asp
				155					160					165
Gly	Gln	Val	His	Leu	Gln	Gln	Arg	Pro	Cys	His	Arg	Gln	Pro	Ala
				170					175					180
Asn	Phe	Ser	Phe	Leu	Pro	Ser	Gln	Thr	Ser	Asp	Trp	Phe	Trp	Cys
				185					190					195
Gln	Ala	Ala	Asn	Asn	Ala	Asn	Val	Gln	His	Ser	Ala	Leu	Thr	Val
				200					205					210
Val	Pro	Pro	Gly	Gly	Asp	Gln	Lys	Met	Glu	Asp	Trp	Gln	Gly	Pro
				215					220					225
Leu	Glu	Ser	Pro	Ile	Leu	Ala	Leu	Pro	Leu	Tyr	Arg	Ser	Thr	Arg
				230					235					240
Arg	Leu	Ser	Glu	Glu	Glu	Phe	Gly	Gly	Phe	Arg	Ile	Gly	Asn	Gly
				245					250					255
Glu	Val	Arg	Gly	Arg	Lys	Ala	Ala	Ala	Met					
				260					265					

<210> 224  
 <211> 1297  
 <212> DNA  
 <213> Homo sapiens

<400> 224  
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 cttctgtctcc tgcgtgccgg ctggctccgg gctggcgag ccgacctca 100  
 ctctctttgc tatgacatca ccgtcatccc taagtccaga cctggaccac 150  
 ggtggtgtgc ggttcaaggc cagggtgatg aaaagacttt tcttactat 200  
 gactgtggca acaagacagt cacacctgtc agtcccctgg ggaagaaact 250  
 aaatgtcaca acggcctgga aagcacagaa cccagtactg agagaggtgg 300  
 tggacatact tacagagcaa ctgcgtgaca ttcagctgga gaattacaca 350  
 cccaaggaac cctcacctc gcaggcaagg atgtcttgtg agcagaaagc 400  
 tgaaggacac agcagtggat ctggcagtt cagtttcgat ggcagatct 450  
 tcctcctctt tgactcagag aagagaatgt ggacaacggt tcatcctgga 500  
 gccagaaaga tgaagaaaaa gtgggagaat gacaagggtg tgccatgtc 550  
 cttccattac ttctcaatgg gagactgtat aggatggctt gaggactctc 600  
 tgatgggcat ggacagcacc ctggagccaa gtgcaggagc accactcgcc 650  
 atgtcctcag gcacaacca actcagggcc acagccacca cctcatcct 700  
 ttgctgcctc ctcatcatcc tcccctgctt catcctccct gccatctgag 750  
 gagagtcctt tagagtaca ggttaaagct gataccaaaa ggctcctgtg 800  
 agcacggtct tgatcaaact cgcctctctg tctggccagc tgcccacgac 850  
 ctacggtgta gtccagtggt cctccagcag atcatgatga catcatggac 900  
 ccaatagctc attcactgcc ttgattcctt ttgccaaaca tttaccagc 950  
 agttatacct aacatattat gcaattttct cttggtgcta cctgatggaa 1000  
 ttctgtcact taaagttctg gctgactaaa caagatatat cttttcttt 1050  
 cttctctttt tgtttgaaa atcaagtact tctttgaatg atgactctt 1100  
 tcttgcaaat gatattgtca gtaaaataat caggttagac ttcagacctc 1150  
 tggggattct ttccgtgtcc tgaaagagaa tttttaaat atttaataag 1200  
 aaaaaattta tattaatgat tgtttcttt agtaatttat tgctctgtac 1250  
 tgatatttaa ataaagagtt ctatttccca aaaaaaaaa aaaaaa 1297

<210> 225  
 <211> 246  
 <212> PRT  
 <213> Homo sapiens

<400> 225

Met Ala Ala Ala Ala Thr Lys Ile Leu Leu Cys Leu Pro Leu  
1 5 10 15

Leu Leu Leu Leu Ser Gly Trp Ser Arg Ala Gly Arg Ala Asp Pro  
20 25 30

His Ser Leu Cys Tyr Asp Ile Thr Val Ile Pro Lys Phe Arg Pro  
35 40 45

Gly Pro Arg Trp Cys Ala Val Gln Gly Gln Val Asp Glu Lys Thr  
50 55 60

Phe Leu His Tyr Asp Cys Gly Asn Lys Thr Val Thr Pro Val Ser  
65 70 75

Pro Leu Gly Lys Lys Leu Asn Val Thr Thr Ala Trp Lys Ala Gln  
80 85 90

Asn Pro Val Leu Arg Glu Val Val Asp Ile Leu Thr Glu Gln Leu  
95 100 105

Arg Asp Ile Gln Leu Glu Asn Tyr Thr Pro Lys Glu Pro Leu Thr  
110 115 120

Leu Gln Ala Arg Met Ser Cys Glu Gln Lys Ala Glu Gly His Ser  
125 130 135

Ser Gly Ser Trp Gln Phe Ser Phe Asp Gly Gln Ile Phe Leu Leu  
140 145 150

Phe Asp Ser Glu Lys Arg Met Trp Thr Thr Val His Pro Gly Ala  
155 160 165

Arg Lys Met Lys Glu Lys Trp Glu Asn Asp Lys Val Val Ala Met  
170 175 180

Ser Phe His Tyr Phe Ser Met Gly Asp Cys Ile Gly Trp Leu Glu  
185 190 195

Asp Phe Leu Met Gly Met Asp Ser Thr Leu Glu Pro Ser Ala Gly  
200 205 210

Ala Pro Leu Ala Met Ser Ser Gly Thr Thr Gln Leu Arg Ala Thr  
215 220 225

Ala Thr Thr Leu Ile Leu Cys Cys Leu Leu Ile Ile Leu Pro Cys  
230 235 240

Phe Ile Leu Pro Gly Ile  
245

<210> 226

<211> 735

<212> DNA

<213> Homo sapiens

<400> 226

gggaaagcca ttctgaaaac ccatctatatac aaactatata ttttcatttc 50

tgctgctagc tgccttgggc ctcacaattt tcattctgtt ttctgacttt 100

caagttatat accgtggaat ggagttgato ccaaccataa catcgtggag 150

gggttttaatt ttggtggtag cccctaccca attctggtgt ggctttcttt 200  
 gcagaggatt ccaccttcaa aatcatgaac tctggctgtt gatcaaaaga 250  
 gaatttggat tctactctaa aagtcaatat aggacttggc aaaagaagct 300  
 agcagaagac tcaacctggc ctccataaa caggacagat tttcagggtg 350  
 atggcaaaaa tggattctac atcaacggag gctatgaaag ccatgaacag 400  
 attccaaaaa gaaaactcaa attgggaggc caaccacag aacagcattt 450  
 ctgggccagg ctgtaatcag aattgtogtc gtacatgctc aacagcattg 500  
 cttttttccc caaaattaac acattgtgga gaagtgatga tactctcccc 550  
 ttacctttcc tctctccatt caagcattca aagtatat ttcaatgaatt 600  
 aaaccttgca gcaagggacc ttagataggc ttattctgac tgtatgcttt 650  
 accaatgaga gaaaaaaatg cttttctgt atcatccttt tcaataaact 700  
 gtattcattt tgaaaaaaa aaaaaaaaa aaaaa 735

<210> 227  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 227  
 Met Glu Leu Ile Pro Thr Ile Thr Ser Trp Arg Val Leu Ile Leu  
 1 5 10 15  
 Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly  
 20 25 30  
 Phe His Leu Gln Asn His Glu Leu Trp Leu Ile Lys Arg Glu  
 35 40 45  
 Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys  
 50 55 60  
 Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr  
 65 70 75  
 Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu  
 80 85 90  
 Ser His Glu Gln Ile Pro Lys Arg Lys Leu Lys Leu Gly Gly Gln  
 95 100 105  
 Pro Thr Glu Gln His Phe Trp Ala Arg Leu  
 110 115

<210> 228  
 <211> 2185  
 <212> DNA  
 <213> Homo sapiens

<400> 228  
 gttctccttt ccgagccaaa atcccaggcg atggtgaatt atgaacgtgc 50  
 cacaccatga agctcttgtg gcaggttaact gtgcaccacc acacctggaa 100



aaacttcgta agcggcacca gcagcggagt acagtcacag cgcgccggac 1750  
 tgttgagata atccaggtgg acgaagacat ccagcagca acatcccgag 1800  
 cagcaacagc agctccgtcc ggtgtatcag gtgagggggc agtagtgctg 1850  
 ccacacaattc atgaccatat taactacaac acctacaac cagcacatgg 1900  
 ggcctcattg acagaaaaa gcctggggaa ctctctgcac ccacagtc 1950  
 ccactatctc tgaaccttat ataattcaga ccataccaa ggacaaggta 2000  
 caggaaactc aaatatgact cccctccccc aaaaaactta taaaatgcaa 2050  
 tagaatgcac acaaagacag caacttttgt acagagtggt gagagacttt 2100  
 ttcttgata tgcttatata ttaagtctat gggctgttta aaaaaacag 2150  
 attatattaa aatttaaaga caaaaagtca aaaca 2185

<210> 229

<211> 653

<212> PRT

<213> Homo sapiens

<400> 229

Met	Lys	Leu	Leu	Trp	Gln	Val	Thr	Val	His	His	His	Thr	Trp	Asn	1	5	10	15
Ala	Ile	Leu	Leu	Pro	Phe	Val	Tyr	Leu	Thr	Ala	Gln	Val	Trp	Ile	20	25	30	
Leu	Cys	Ala	Ala	Ile	Ala	Ala	Ala	Ala	Ser	Ala	Gly	Pro	Gln	Asn	35	40	45	
Cys	Pro	Ser	Val	Cys	Ser	Cys	Ser	Asn	Gln	Phe	Ser	Lys	Val	Val	50	55	60	
Cys	Thr	Arg	Arg	Gly	Leu	Ser	Glu	Val	Pro	Gln	Gly	Ile	Pro	Ser	65	70	75	
Asn	Thr	Arg	Tyr	Leu	Asn	Leu	Met	Glu	Asn	Asn	Ile	Gln	Met	Ile	80	85	90	
Gln	Ala	Asp	Thr	Phe	Arg	His	Leu	His	His	Leu	Glu	Val	Leu	Gln	95	100	105	
Leu	Gly	Arg	Asn	Ser	Ile	Arg	Gln	Ile	Glu	Val	Gly	Ala	Phe	Asn	110	115	120	
Gly	Leu	Ala	Ser	Leu	Asn	Thr	Leu	Glu	Leu	Phe	Asp	Asn	Trp	Leu	125	130	135	
Thr	Val	Ile	Pro	Ser	Gly	Ala	Phe	Glu	Tyr	Leu	Ser	Lys	Leu	Arg	140	145	150	
Glu	Leu	Trp	Leu	Arg	Asn	Asn	Pro	Ile	Glu	Ser	Ile	Pro	Ser	Tyr	155	160	165	
Ala	Phe	Asn	Arg	Val	Pro	Ser	Leu	Met	Arg	Leu	Asp	Leu	Gly	Glu	170	175	180	
Leu	Lys	Lys	Leu	Glu	Tyr	Ile	Ser	Glu	Gly	Ala	Phe	Glu	Gly	Leu				



	185		190		195
Phe Asn Leu Lys	Tyr Leu Asn Leu Gly	Met Cys Asn Ile Lys	Asp		
	200		205		210
Met Pro Asn Leu	Thr Pro Leu Val Gly	Leu Glu Glu Leu Glu	Met		
	215		220		225
Ser Gly Asn His	Phe Pro Glu Ile Arg	Pro Gly Ser Phe His	Gly		
	230		235		240
Leu Ser Ser Leu	Lys Lys Leu Trp Val	Met Asn Ser Gln Val	Ser		
	245		250		255
Leu Ile Glu Arg	Asn Ala Phe Asp Gly	Leu Ala Ser Leu Val	Glu		
	260		265		270
Leu Asn Leu Ala	His Asn Asn Leu Ser	Ser Leu Pro His Asp	Leu		
	275		280		285
Phe Thr Pro Leu	Arg Tyr Leu Val Glu	Leu His Leu His His	Asn		
	290		295		300
Pro Trp Asn Cys	Asp Cys Asp Ile Leu	Trp Leu Ala Trp Trp	Leu		
	305		310		315
Arg Glu Tyr Ile	Pro Thr Asn Ser Thr	Cys Cys Gly Arg Cys	His		
	320		325		330
Ala Pro Met His	Met Arg Gly Arg Tyr	Leu Val Glu Val Asp	Gln		
	335		340		345
Ala Ser Phe Gln	Cys Ser Ala Pro Phe	Ile Met Asp Ala Pro	Arg		
	350		355		360
Asp Leu Asn Ile	Ser Glu Gly Arg Met	Ala Glu Leu Lys Cys	Arg		
	365		370		375
Thr Pro Pro Met	Ser Ser Val Lys Trp	Leu Leu Pro Asn Gly	Thr		
	380		385		390
Val Leu Ser His	Ala Ser Arg His Pro	Arg Ile Ser Val Leu	Asn		
	395		400		405
Asp Gly Thr Leu	Asn Phe Ser His Val	Leu Leu Ser Asp Thr	Gly		
	410		415		420
Val Tyr Thr Cys	Met Val Thr Asn Val	Ala Gly Asn Ser Asn	Ala		
	425		430		435
Ser Ala Tyr Leu	Asn Val Ser Thr Ala	Glu Leu Asn Thr Ser	Asn		
	440		445		450
Tyr Ser Phe Phe	Thr Thr Val Thr Val	Glu Thr Thr Glu Ile	Ser		
	455		460		465
Pro Glu Asp Thr	Thr Arg Lys Tyr Lys	Pro Val Pro Thr Thr	Ser		
	470		475		480
Thr Gly Tyr Gln	Pro Ala Tyr Thr Thr	Ser Thr Thr Val Leu	Ile		
	485		490		495
Gln Thr Thr Arg	Val Pro Lys Gln Val	Ala Val Pro Ala Thr	Asp		



gcacatgggac	ctcactccac	gtcctcttc	actcgcgatg	ctccaagaat	700
tttgacgggt	tccatgccat	ttatgaggag	atcacagcat	gtcctctc	750
cccttgtttt	catgacggca	cgtgcgtcct	tgacaaggct	ggatcttaca	800
agtgtgcctg	cttggcaggc	tatactgggc	agcgtgtga	aaatctcctt	850
gaagaaagaa	actgctcaga	ccttgggggc	ccagtcaatg	ggtaccagaa	900
aataacaggg	ggcctggggc	ttatcaacgg	acgccatgct	aaaattggca	950
ccgtggtgtc	ttcttttgt	aacaactcct	atgttcttag	tggcaatgag	1000
aaaagaactt	gccagcagaa	tggagagtgg	tcagggaaac	agcccatctg	1050
cataaaagcc	tgcgcgagac	caaagatttc	agacctgggt	agaaggagag	1100
ttcttccgat	gcaggttcag	tcaagggaga	caccattaca	ccagctatac	1150
tcagcggcct	tcagcaagca	gaaactgcag	agtgccccta	ccaagaagcc	1200
agcccttccc	tttggagatc	tgccctagg	ataccaacat	ctgcataccc	1250
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aggaggacat	gtctgaggac	tgggaagtgg	agtgggcggg	caccatcctg	1350
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ggttgcgctg	gccgtggcag	gcagccatct	acaggaggac	cagcgggggt	1450
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cctggtgaat	gagcgcactg	tgtgtgtggc	tgccactgt	gttactgacc	1550
tggggaaggt	caccatgctc	aagacagcag	acctgaaggt	tgttttgggg	1600
aaattctacc	gggatgatga	ccgggatgag	aagaccatcc	agagcctaca	1650
gatttctgct	atcattctgc	atcccaacta	tgacccctac	ctgcttgatg	1700
ctgacatcgc	cactcctgaag	ctcctagaca	aggcccgat	cagcacccca	1750
gtccagccca	tctgcctcgc	tgccagtggg	gatctcagca	cttccttcca	1800
ggagtcccac	atcactgtgg	ctggctggaa	tgtcctggca	gacgtgagga	1850
gccctggcct	caagaacgac	acactgcgct	ctggggtggg	cagtgtgggt	1900
gactcgtcgc	tgtgtgagga	gcagcatgag	gacctggcca	tcccagttag	1950
tgtcactgat	aacatgttct	gtgccagctg	ggaaccactc	gcccttctgt	2000
atatctgcac	tgcagagaca	ggaggcatcg	cggctgtgtc	cttcccgggg	2050
cgagcatctc	ctgagccacg	ctggcatctg	atgggactgg	tcagctggag	2100
ctatgataaa	acatgcagcc	acaggctctc	cactgccttc	accaagggtgc	2150
tgccctttta	agactggatt	gaaagaaata	tgaatgaac	catgctcatg	2200
cactccttga	gaagtgtttc	tgtatatccg	tctgtacgtg	tgtcattgcg	2250

tgaagcagtg tgggcctgaa gtgtgatttg gcctgtgaac ttggctgtgc 2300  
cagggtctct gacttcaggg acaaaactca gtgaaggggtg agtagacctc 2350  
cattgctggg aggctgatgc cgcgtccact actaggacag ccaattggaa 2400  
gatgccaggg cttgcaagaa gtaagtttct tcaagaaga ccatatacaa 2450  
aacctctcca ctccactgac ctgggtgtct tcccacactt tcagtatac 2500  
gaatgccatc agcttgacca gggaagatct gggcttcag aggccctttt 2550  
tgaggctctc aagttctaga gagctgcttg tgggacagcc cagggcagca 2600  
gagctgggat gtggtgcatg cctttgtgta catggccaca gtacagtctg 2650  
gtcctttttc ttcccatct cttgtacaca ttttaataaa ataaggggtg 2700  
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2800  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2846

<210> 231  
<211> 720  
<212> PRT  
<213> Homo sapiens

<400> 231  
Met Glu Leu Gly Cys Trp Thr Gln Leu Gly Leu Thr Phe Leu Gln  
1 5 10 15  
Leu Leu Leu Ile Ser Ser Leu Pro Arg Glu Tyr Thr Val Ile Asn  
20 30  
Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys  
35 40 45  
Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu  
50 55 60  
Val Val Gly Tyr Thr Ile Pro Cys Cys Asn Glu Glu Asn Glu  
65 70 75  
Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn  
80 85 90  
Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp  
95 100 105  
Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp  
110 115 120  
Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro  
125 130 135  
Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys  
140 145 150  
Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg  
155 160 165

Phe Val Met Leu	Ser Leu Glu Phe Asp	Tyr Met Cys Gln Tyr	Asp
170	170	175	180
Tyr Val Glu Val	Arg Asp Gly Asp Asn	Arg Asp Gly Gln Ile	Ile
185	190	195	195
Lys Arg Val Cys	Gly Asn Glu Arg Pro	Ala Pro Ile Gln Ser	Ile
200	205	210	210
Gly Ser Ser Leu	His Val Leu Phe His	Ser Asp Gly Ser Lys	Asn
215	220	225	225
Phe Asp Gly Phe	His Ala Ile Tyr Glu	Glu Ile Thr Ala Cys	Ser
230	235	240	240
Ser Ser Pro Cys	Phe His Asp Gly Thr	Cys Val Leu Asp Lys	Ala
245	250	255	255
Gly Ser Tyr Lys	Cys Ala Cys Leu Ala	Gly Tyr Thr Gly Gln	Arg
260	265	270	270
Cys Glu Asn Leu	Leu Glu Glu Arg Asn	Cys Ser Asp Pro Gly	Gly
275	280	285	285
Pro Val Asn Gly	Tyr Gln Lys Ile Thr	Gly Gly Pro Gly Leu	Ile
290	295	300	300
Asn Gly Arg His	Ala Lys Ile Gly Thr	Val Val Ser Phe Phe	Cys
305	310	315	315
Asn Asn Ser Tyr	Val Leu Ser Gly Asn	Glu Lys Arg Thr Cys	Gln
320	325	330	330
Gln Asn Gly Glu	Trp Ser Gly Lys Gln	Pro Ile Cys Ile Lys	Ala
335	340	345	345
Cys Arg Glu Pro	Lys Ile Ser Asp Leu	Val Arg Arg Arg Val	Leu
350	355	360	360
Pro Met Gln Val	Gln Ser Arg Glu Thr	Pro Leu His Gln Leu	Tyr
365	370	375	375
Ser Ala Ala Phe	Ser Lys Gln Lys Leu	Gln Ser Ala Pro Thr	Lys
380	385	390	390
Lys Pro Ala Leu	Pro Phe Gly Asp Leu	Pro Met Gly Tyr Gln	His
395	400	405	405
Leu His Thr Gln	Leu Gln Tyr Glu Cys	Ile Ser Pro Phe Tyr	Arg
410	415	420	420
Arg Leu Gly Ser	Ser Arg Arg Thr Cys	Leu Arg Thr Gly Lys	Trp
425	430	435	435
Ser Gly Arg Ala	Pro Ser Cys Ile Pro	Ile Cys Gly Lys Ile	Glu
440	445	450	450
Asn Ile Thr Ala	Pro Lys Thr Gln Gly	Leu Arg Trp Pro Trp	Gln
455	460	465	465
Ala Ala Ile Tyr	Arg Arg Thr Ser Gly	Val His Asp Gly Ser	Leu
470	475	480	480

His	Lys	Gly	Ala	Trp	Phe	Leu	Val	Cys	Ser	Gly	Ala	Leu	Val	Asn
				485					490					495
Glu	Arg	Thr	Val	Val	Val	Ala	Ala	His	Cys	Val	Thr	Asp	Leu	Gly
				500					505					510
Lys	Val	Thr	Met	Ile	Lys	Thr	Ala	Asp	Leu	Lys	Val	Val	Leu	Gly
				515					520					525
Lys	Phe	Tyr	Arg	Asp	Asp	Asp	Arg	Asp	Glu	Lys	Thr	Ile	Gln	Ser
				530					535					540
Leu	Gln	Ile	Ser	Ala	Ile	Ile	Leu	His	Pro	Asn	Tyr	Asp	Pro	Ile
				545					550					555
Leu	Leu	Asp	Ala	Asp	Ile	Ala	Ile	Leu	Lys	Leu	Leu	Asp	Lys	Ala
				560					565					570
Arg	Ile	Ser	Thr	Arg	Val	Gln	Pro	Ile	Cys	Leu	Ala	Ala	Ser	Arg
				575					580					585
Asp	Leu	Ser	Thr	Ser	Phe	Gln	Glu	Ser	His	Ile	Thr	Val	Ala	Gly
				590					595					600
Trp	Asn	Val	Leu	Ala	Asp	Val	Arg	Ser	Pro	Gly	Phe	Lys	Asn	Asp
				605					610					615
Thr	Leu	Arg	Ser	Gly	Val	Val	Ser	Val	Val	Asp	Ser	Leu	Leu	Cys
				620					625					630
Glu	Glu	Gln	His	Glu	Asp	His	Gly	Ile	Pro	Val	Ser	Val	Thr	Asp
				635					640					645
Asn	Met	Phe	Cys	Ala	Ser	Trp	Glu	Pro	Thr	Ala	Pro	Ser	Asp	Ile
				650					655					660
Cys	Thr	Ala	Glu	Thr	Gly	Gly	Ile	Ala	Ala	Val	Ser	Phe	Pro	Gly
				665					670					675
Arg	Ala	Ser	Pro	Glu	Pro	Arg	Trp	His	Leu	Met	Gly	Leu	Val	Ser
				680					685					690
Trp	Ser	Tyr	Asp	Lys	Thr	Cys	Ser	His	Arg	Leu	Ser	Thr	Ala	Phe
				695					700					705
Thr	Lys	Val	Leu	Pro	Phe	Lys	Asp	Trp	Ile	Glu	Arg	Asn	Met	Lys
				710					715					720

<210> 232

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

aggttcgtga tggagacaac cgcg 24

<210> 233

<211> 24

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 233  
tgtcaaggac gcaactgccgt catg 24

<210> 234  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 234  
tggccagatc atcaagcgtg tctgtggcaa cgagcggcca gtcctatcc 50

<210> 235  
<211> 1964  
<212> DNA  
<213> Homo sapiens

<400> 235  
accaggcatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50  
agctcaactt gaagctttct tgctgcagt gaagcagaga gatagatatt 100  
attcacgtaa taaaaaacat gggttcaac ctgactttcc acctttccta 150  
caaattccga ttactgttgc tgttgacttt gtgcctgaca gtgggtgggt 200  
gggccaccag taactacttc gtgggtgccca ttcaagagat tcctaaagca 250  
aaggagttca tggctaattt ccataagacc ctcatatttg ggaagggaaa 300  
aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350  
cttctgtgtc tccttacctc agaggccaga gcaagctcat ttcaaaacca 400  
gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450  
ccggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500  
ttccccaccg gaacagagag aaacacctga tgtacctgct ggaacatctg 550  
catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600  
ccaggctgaa ggtaaaaagt ttaatcgagc caaactcttg aatgtgggct 650  
atctagaagc cotcaaggaa gaaaattggg actgctttat attccacgat 700  
gtggacctgg taccogagaa tgactttaac cttacaagt gtgaggagca 750  
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acagtggata ttttgggggt gttactgccc taagcagaga gcagtttttc 850  
aaggtaatg gattctctaa caactactgg ggtatggggag gcgaagacga 900  
tgacctcaga ctcaggggtg agctccaaag aatgaaaaat tccggggccc 950  
tgctgaagt gggtaaaatat acaatggtct tccacactag agacaaaggc 1000

aatgagggtga acgcagaacg gatgaagctc ttacaccaag tgtcacgagt 1050  
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aacacaatcc tttatatatc aacatcacag tggattttctg gtttgggtgca 1150  
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acagctcatt gttgagctga atttttcctt tttgtatttt cttagcagag 1300  
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ggtagcagga gggtggagtg tcggctgcaa aggcagcagt agctgagctg 1750  
gttgcaagtg ctgatagcct tcaggggagg acctgccag gtatgccttc 1800  
cagtgatgcc caccagagaa tacattctct attagttttt aaagagtttt 1850  
tgtaaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900  
acataattaac taataataaa tatgtctatc aaatacctct gtagtaaaat 1950  
gtgaaaaagc aaaa 1964

<210> 236  
<211> 344  
<212> PRT  
<213> Homo sapiens

<220>  
<221> Signal peptide  
<222> 1-27  
<223> Signal peptide

<220>  
<221> N-glycosylation sites  
<222> 4-7, 220-223, 335-338  
<223> N-glycosylation sites

<220>  
<221> Xylose isomerase proteins  
<222> 191-201  
<223> Xylose isomerase proteins

<400> 236  
Met Gly Phe Asn Leu Thr Phe His Leu Ser Tyr Lys Phe Arg Leu  
1 5 10 15



Leu	Leu	Leu	Leu	Thr	Leu	Cys	Leu	Thr	Val	Val	Gly	Trp	Ala	Thr
				20					25					30
Ser	Asn	Tyr	Phe	Val	Gly	Ala	Ile	Gln	Glu	Ile	Pro	Lys	Ala	Lys
				35					40					45
Glu	Phe	Met	Ala	Asn	Phe	His	Lys	Thr	Leu	Ile	Leu	Gly	Lys	Gly
				50					55					60
Lys	Thr	Leu	Thr	Asn	Glu	Ala	Ser	Thr	Lys	Lys	Val	Glu	Leu	Asp
				65					70					75
Asn	Cys	Pro	Ser	Val	Ser	Pro	Tyr	Leu	Arg	Gly	Gln	Ser	Lys	Leu
				80					85					90
Ile	Phe	Lys	Pro	Asp	Leu	Thr	Leu	Glu	Glu	Val	Gln	Ala	Glu	Asn
				95					100					105
Pro	Lys	Val	Ser	Arg	Gly	Arg	Tyr	Arg	Pro	Gln	Glu	Cys	Lys	Ala
				110					115					120
Leu	Gln	Arg	Val	Ala	Ile	Leu	Val	Pro	His	Arg	Asn	Arg	Glu	Lys
				125					130					135
His	Leu	Met	Tyr	Leu	Leu	Glu	His	Leu	His	Pro	Phe	Leu	Gln	Arg
				140					145					150
Gln	Gln	Leu	Asp	Tyr	Gly	Ile	Tyr	Val	Ile	His	Gln	Ala	Glu	Gly
				155					160					165
Lys	Lys	Phe	Asn	Arg	Ala	Lys	Leu	Leu	Asn	Val	Gly	Tyr	Leu	Glu
				170					175					180
Ala	Leu	Lys	Glu	Glu	Asn	Trp	Asp	Cys	Phe	Ile	Phe	His	Asp	Val
				185					190					195
Asp	Leu	Val	Pro	Glu	Asn	Asp	Phe	Asn	Leu	Tyr	Lys	Cys	Glu	Glu
				200					205					210
His	Pro	Lys	His	Leu	Val	Val	Gly	Arg	Asn	Ser	Thr	Gly	Tyr	Arg
				215					220					225
Leu	Arg	Tyr	Ser	Gly	Tyr	Phe	Gly	Gly	Val	Thr	Ala	Leu	Ser	Arg
				230					235					240
Glu	Gln	Phe	Phe	Lys	Val	Asn	Gly	Phe	Ser	Asn	Asn	Tyr	Trp	Gly
				245					250					255
Trp	Gly	Gly	Glu	Asp	Asp	Asp	Leu	Arg	Leu	Arg	Val	Glu	Leu	Gln
				260					265					270
Arg	Met	Lys	Ile	Ser	Arg	Pro	Leu	Pro	Glu	Val	Gly	Lys	Tyr	Thr
				275					280					285
Met	Val	Phe	His	Thr	Arg	Asp	Lys	Gly	Asn	Glu	Val	Asn	Ala	Glu
				290					295					300
Arg	Met	Lys	Leu	Leu	His	Gln	Val	Ser	Arg	Val	Trp	Arg	Thr	Asp
				305					310					315
Gly	Leu	Ser	Ser	Cys	Ser	Tyr	Lys	Leu	Val	Ser	Val	Glu	His	Asn
				320					325					330

Pro Leu Tyr Ile Asn Ile Thr Val Asp Phe Trp Phe Gly Ala  
335 340

<210> 237  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 237  
ccttacctca gaggccagag caagc 25

<210> 238  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 238  
gagcttcacg cgttctgcgt tcacc 25

<210> 239  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 239  
caggaatgta aagctttaca gagggctgcc atcctcgttc cccacc 46

<210> 240  
<211> 2567  
<212> DNA  
<213> Homo sapiens

<400> 240  
cgtgggcccgg ggtcgcgcag cgggctgtgg gcgcgcccgg aggagcgacc 50  
gccgcagttc tcgagctcca gctgcattcc ctccgcgtcc gccccacgct 100  
tctcccgcgc cgggcccgcg aatggcccag gcagtgtggt cgcgcctcgg 150  
ccgcatcctc tggcttgccg gctcctcgcc ctgggcccgg gcagggggtg 200  
ccgcaggcct gtatgaactc aatctcacca ccgatagccc tgccaccacg 250  
ggagcgggtg tgaccatctc ggccagcctg gtggccaagg acaacgcgcg 300  
cctggcccctg cccgctgacg cccacctcta ccgcttccac tggatccaca 350  
ccccgctggt gcttactggc aagatggaga aggtctcacc ctccaccatc 400  
cgtgtgtgct gccacgtgcc cggggaattc ccggtctctg tctgggtcac 450  
tgccgctgac tgctggatgt gccagcctgt ggccaggggg tttgtggtcc 500  
tccccatcac agagtctctc gtgggggacc ttgtgtgcac ccagaacact 550

tccctaccct ggcccagctc ctatctcact aagaccgtcc tgaaagtctc 600  
 ctctctctct cagcaccga gcaattctct caagaccgcc ttgtttctct 650  
 acagctggga ctctggggac gggaccacaga tggtagctga agactccgtg 700  
 gtctattata actattccat catcgggacc ttacaccgtg agctcaaagt 750  
 ggtggcggag tgggaagagg tggagccgga tgcacagagg gctgtgaagc 800  
 agaagaccgg ggacttctcc gcctcgtga agctgcagga aacccttcga 850  
 ggcacccaag tgttggggcc caccctaatt cagaccttcc aaaagatgac 900  
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 tcaagcctga gtgcctcccg ctggagggaag gggagtgcga cctgtgtgac 1000  
 gtggccagca cagcgtacaa cctgaccacc accttcaggg accctgggga 1050  
 ctactgtctc agcatccggg ccgagaatat catcagcaag acacatcagt 1100  
 accacaagat ccagggtgtg ccctccagaa tccagccggc tgtctttgct 1150  
 ttccatgtg ctacacttat cactgtgatg ttggccttca tcatgtacat 1200  
 gacctgcgg aatgccactc agcaaaagga catggtggag aacccgagc 1250  
 caccctctgg ggtcaggtgc tgcctgcaga tgtgctgtgg gcctttcttg 1300  
 ctggagactc catctgagta cctggaaatt gttcgtgaga accacgggct 1350  
 gctcccgccc ctctataagt ctgtcaaac ttacaccgtg tgagcactcc 1400  
 cctcccccac cccatctcag tgttaactga ctgctgactt ggagtttcca 1450  
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 aagggtgtac acatagatgg gcacactcac agagagaagt gtgcattgac 1900  
 acacaccaca cacacacaca cacacacaca cacagaata taaacacatg 1950  
 cgtcacatgg gcaatttcaga tgatcagctc tgtatctggt taagtccggt 2000  
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 gccctgacag gttctgggcc cgggccctcc ctttgtgctt tgtctctgca 2100  
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cctggatggg gggcaggact aatactgagt gattgcagag tgctttataa 2200  
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 agctactcgg gaggtgagg caggagaatg gtgcgaaccc gggaggcgga 2500  
 gcttgcatg agcccagatg gcgcactgc actccagcct gagtacaga 2550  
 gcgagactct gtctcca 2567

<210> 241  
 <211> 423  
 <212> PRT  
 <213> Homo sapiens

<400> 241  
 Met Ala Gln Ala Val Trp Ser Arg Leu Gly Arg Ile Leu Trp Leu  
 1 5 10 15  
 Ala Cys Leu Leu Pro Trp Ala Pro Ala Gly Val Ala Ala Gly Leu  
 20 25 30  
 Tyr Glu Leu Asn Leu Thr Thr Asp Ser Pro Ala Thr Thr Gly Ala  
 35 40 45  
 Val Val Thr Ile Ser Ala Ser Leu Val Ala Lys Asp Asn Gly Ser  
 50 55 60  
 Leu Ala Leu Pro Ala Asp Ala His Leu Tyr Arg Phe His Trp Ile  
 65 70 75  
 His Thr Pro Leu Val Leu Thr Gly Lys Met Glu Lys Gly Leu Ser  
 80 85 90  
 Ser Thr Ile Arg Val Val Gly His Val Pro Gly Glu Phe Pro Val  
 95 100 105  
 Ser Val Trp Val Thr Ala Ala Asp Cys Trp Met Cys Gln Pro Val  
 110 115 120  
 Ala Arg Gly Phe Val Val Leu Pro Ile Thr Glu Phe Leu Val Gly  
 125 130 135  
 Asp Leu Val Val Thr Gln Asn Thr Ser Leu Pro Trp Pro Ser Ser  
 140 145 150  
 Tyr Leu Thr Lys Thr Val Leu Lys Val Ser Phe Leu Leu His Asp  
 155 160 165  
 Pro Ser Asn Phe Leu Lys Thr Ala Leu Phe Leu Tyr Ser Trp Asp  
 170 175 180  
 Phe Gly Asp Gly Thr Gln Met Val Thr Glu Asp Ser Val Val Tyr  
 185 190 195

Tyr Asn Tyr Ser Ile Ile Gly Thr Phe Thr Val Lys Leu Lys Val  
 200 205 210  
 Val Ala Glu Trp Glu Glu Val Glu Pro Asp Ala Thr Arg Ala Val  
 215 220 225  
 Lys Gln Lys Thr Gly Asp Phe Ser Ala Ser Leu Lys Leu Gln Glu  
 230 235 240  
 Thr Leu Arg Gly Ile Gln Val Leu Gly Pro Thr Leu Ile Gln Thr  
 245 250 255  
 Phe Gln Lys Met Thr Val Thr Leu Asn Phe Leu Gly Ser Pro Pro  
 260 265 270  
 Leu Thr Val Cys Trp Arg Leu Lys Pro Glu Cys Leu Pro Leu Glu  
 275 280 285  
 Glu Gly Glu Cys His Pro Val Ser Val Ala Ser Thr Ala Tyr Asn  
 290 295 300  
 Leu Thr His Thr Phe Arg Asp Pro Gly Asp Tyr Cys Phe Ser Ile  
 305 310 315  
 Arg Ala Glu Asn Ile Ile Ser Lys Thr His Gln Tyr His Lys Ile  
 320 325 330  
 Gln Val Trp Pro Ser Arg Ile Gln Pro Ala Val Phe Ala Phe Pro  
 335 340 345  
 Cys Ala Thr Leu Ile Thr Val Met Leu Ala Phe Ile Met Tyr Met  
 350 355 360  
 Thr Leu Arg Asn Ala Thr Gln Gln Lys Asp Met Val Glu Asn Pro  
 365 370 375  
 Glu Pro Pro Ser Gly Val Arg Cys Cys Cys Gln Met Cys Cys Gly  
 380 385 390  
 Pro Phe Leu Leu Glu Thr Pro Ser Glu Tyr Leu Glu Ile Val Arg  
 395 400 405  
 Glu Asn His Gly Leu Leu Pro Pro Leu Tyr Lys Ser Val Lys Thr  
 410 415 420  
 Tyr Thr Val

<210> 242  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 242  
 catttcctta cctggaccc agctcc 26  
  
 <210> 243  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 243  
gaaaggccca cagcacatct ggcag 25

<210> 244  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 244  
ccacgaccgg agcaacttcc tcaagaccga cttgtttctc tacagc 46

<210> 245  
<211> 485  
<212> DNA  
<213> Homo sapiens

<400> 245  
gctcaagacc cagcagtggg acagccagac agacggcagc atggcactga 50  
gctccagat ctgggcccgt tcctctctgc tcctctctct cctcgcagc 100  
ctgaccagt gctctgtttt ccacacacag acgggacaac ttgcagagct 150  
gcaacccag gacagagctg gagccagggc cagctggatg cccatgttcc 200  
agaggcgaag gagcgagac acccacttcc ccactctcat tttctgtctg 250  
ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300  
acctgccctg cccccgtccc ctcccttctt tattttattc tgctgcccc 350  
gaacataggt cttggaataa aatggctggt tcttttgttt tccaaaaaaa 400  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 485

<210> 246  
<211> 84  
<212> PRT  
<213> Homo sapiens

<400> 246  
Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu  
1 5 10 15  
Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln  
20 25 30  
Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala  
35 40 45  
Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Arg Asp  
50 55 60  
Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg  
65 70 75

Ser Lys Cys Gly Met Cys Cys Lys Thr  
80

<210> 247  
<211> 2359  
<212> DNA  
<213> Homo sapiens

<400> 247  
ctgtcaggaa ggaccatctg aaggctgcaa ttgtttcta ggaggcagg 50  
tgctggcctg gcttgatct tccaccatgt tcctgttgc gccctttgat 100  
agcctgattg tcaaccttct ggcatctcc ctgaactgccc tcttcacct 150  
ccttctcgtt ttcacatag tgcacgcat ttttgagtc tcctttggta 200  
tccgcaaact ctacatgaaa agtctgttaa aaatctttgc gtgggctacc 250  
ttgagaatgg agcaggaggc caaggagaag aaccaccagc ttacaagcc 300  
ctacaccaac ggaatcattg caaaggatcc cacttcacta gaagaagaga 350  
tcaaagagat tcgtcgaagt ggtagtagta aggctctgga caacactcca 400  
gagttcagc tctctgacat tttctacttt tgcgggaaag gaattggagc 450  
cattatggat gatgaggatg caaagagatt ctacagcaga gaactggagt 500  
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gctgcgcctc aggatagcac tggctttcac agggattagc cttctggtgg 650  
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atgagtaaac atgttcactt aatgtgttac cggatctgag tgcgagcgct 750  
gacagccatc atcacctacc atgacaggga aaacagacca agaaatggg 800  
gcactctgtg ggccaatcat acctcaccga tcgatgtgat catcttggcc 850  
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gtgcaagata aaagcaagct gccatctctc atcttcccag aaggaaacctg 1050  
catcaataat acatoggtga tgaatgtcaa aaagggaagt tttgaaattg 1100  
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ctagagaggc agatgaagat gctgtccagt ttgcgaatag ggtgaaattc 1300  
gccattgcca ggcaggaggg acttgtggac ctgctgtggg atgggggcct 1350

gaagagggag aaggtgaagg acacgttcaa ggaggagcag cagaagctgt 1400  
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 tggagttgcc gccgccgcc cactctgtgt gtctttcca gactccagg 1550  
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 cgggatccct gtgcaccgg cgcagcctac ccttggtggt ctaaacggat 1650  
 gctgctgggt gttgcgaccc aggaagagat gccttgttt tttacaata 1700  
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 gcgggctgag tggttggga gatgtggcca tggcttctgt ctatagatgg 1800  
 cggtaacaaga gtctgttatg caagcccgtg tgcagggat gtgctgggg 1850  
 cggccaccgc ctctccagga aaggcacagc tgaggcactg tggctggctt 1900  
 cggcctcaac atcgccccc gccttgagc tctgcagaca tgataggaag 1950  
 gaaactgtca tctgcagggg ctttcagcaa aatgaagggt tagattttta 2000  
 tgctgctgct gatggggtta ctaaaggagg gggaaggagg cagggtggcc 2050  
 gctgactggg ccattggggg aacgtgtgtt cgtactccag gtaaccctg 2100  
 aactccccat gtgatgcgcg cttgtgttaa tgtgtgtctc gggttcccc 2150  
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 gttgtgggga ttaaagtgt gcgggtgagt gaaggacaca tcacgttcag 2250  
 tgtttcaagt acaggccac aaaacggggc acggcaggcc tgagctcaga 2300  
 gctgctgcac tgggcttgg atttgttctt gtgagtaaat aaaactggct 2350  
 ggtgaatga 2359

<210> 248  
 <211> 456  
 <212> PRT  
 <213> Homo sapiens

<400> 248  
 Met Phe Leu Leu Pro Phe Asp Ser Leu Ile Val Asn Leu Leu  
 1 5 10 15  
 Gly Ile Ser Leu Thr Val Leu Phe Thr Leu Leu Leu Val Phe Ile  
 20 25 30  
 Ile Val Pro Ala Ile Phe Gly Val Ser Phe Gly Ile Arg Lys Leu  
 35 40 45  
 Tyr Met Lys Ser Leu Leu Lys Ile Phe Ala Trp Ala Thr Leu Arg  
 50 55 60  
 Met Glu Arg Gly Ala Lys Glu Lys Asn His Gln Leu Tyr Lys Pro  
 65 70 75



Tyr	Thr	Asn	Gly	Ile	Ile	Ala	Lys	Asp	Pro	Thr	Ser	Leu	Glu	Glu	
				80					85					90	
Glu	Ile	Lys	Glu	Ile	Arg	Arg	Ser	Gly	Ser	Ser	Lys	Ala	Leu	Asp	
				95					100					105	
Asn	Thr	Pro	Glu	Phe	Glu	Leu	Ser	Asp	Ile	Phe	Tyr	Phe	Cys	Arg	
				110					115					120	
Lys	Gly	Met	Glu	Thr	Ile	Met	Asp	Asp	Glu	Val	Thr	Lys	Arg	Phe	
				125					130					135	
Ser	Ala	Glu	Glu	Leu	Glu	Ser	Trp	Asn	Leu	Leu	Ser	Arg	Thr	Asn	
				140					145					150	
Tyr	Asn	Phe	Gln	Tyr	Ile	Ser	Leu	Arg	Leu	Thr	Val	Leu	Trp	Gly	
				155					160					165	
Leu	Gly	Val	Leu	Ile	Arg	Tyr	Cys	Phe	Leu	Leu	Pro	Leu	Arg	Ile	
				170					175					180	
Ala	Leu	Ala	Phe	Thr	Gly	Ile	Ser	Leu	Leu	Val	Val	Gly	Thr	Thr	
				185					190					195	
Val	Val	Gly	Tyr	Leu	Pro	Asn	Gly	Arg	Phe	Lys	Glu	Phe	Met	Ser	
				200					205					210	
Lys	His	Val	His	Leu	Met	Cys	Tyr	Arg	Ile	Cys	Val	Arg	Ala	Leu	
				215					220					225	
Thr	Ala	Ile	Ile	Thr	Tyr	His	Asp	Arg	Glu	Asn	Arg	Pro	Arg	Asn	
				230					235					240	
Gly	Gly	Ile	Cys	Val	Ala	Asn	His	Thr	Ser	Pro	Ile	Asp	Val	Ile	
				245					250					255	
Ile	Leu	Ala	Ser	Asp	Gly	Tyr	Tyr	Ala	Met	Val	Gly	Gln	Val	His	
				260					265					270	
Gly	Gly	Leu	Met	Gly	Val	Ile	Gln	Arg	Ala	Met	Val	Lys	Ala	Cys	
				275					280					285	
Pro	His	Val	Trp	Phe	Glu	Arg	Ser	Glu	Val	Lys	Asp	Arg	His	Leu	
				290					295					300	
Val	Ala	Lys	Arg	Leu	Thr	Glu	His	Val	Gln	Asp	Lys	Ser	Lys	Leu	
				305					310					315	
Pro	Ile	Leu	Ile	Phe	Pro	Glu	Gly	Thr	Cys	Ile	Asn	Asn	Thr	Ser	
				320					325					330	
Val	Met	Met	Phe	Lys	Lys	Gly	Ser	Phe	Glu	Ile	Gly	Ala	Thr	Val	
				335					340					345	
Tyr	Pro	Val	Ala	Ile	Lys	Tyr	Asp	Pro	Gln	Phe	Gly	Asp	Ala	Phe	
				350					355					360	
Trp	Asn	Ser	Ser	Lys	Tyr	Gly	Met	Val	Thr	Tyr	Leu	Leu	Arg	Met	
				365					370					375	
Met	Thr	Ser	Trp	Ala	Ile	Val	Cys	Ser	Val	Trp	Tyr	Leu	Pro	Pro	
				380					385					390	



gacatggagt tttattgagg tagctacgtg attaaatggt attgcagtgt 1100  
gga 1103

<210> 250  
<211> 240  
<212> PRT  
<213> Homo sapiens

<400> 250  
Met Ala Leu Ala Ala Leu Met Ile Ala Leu Gly Ser Leu Gly Leu  
1 5 10 15  
His Thr Trp Gln Ala Gln Ala Val Pro Thr Ile Leu Pro Leu Gly  
20 25 30  
Leu Ala Pro Asp Thr Phe Asp Asp Thr Tyr Val Gly Cys Ala Glu  
35 40 45  
Glu Met Glu Glu Lys Ala Ala Pro Leu Leu Lys Glu Glu Met Ala  
50 55 60  
His His Ala Leu Leu Arg Glu Ser Trp Glu Ala Ala Gln Glu Thr  
65 70 75  
Trp Glu Asp Lys Arg Arg Gly Leu Thr Leu Pro Pro Gly Phe Lys  
80 85 90  
Ala Gln Asn Gly Ile Ala Ile Met Val Tyr Thr Asn Ser Ser Asn  
95 100 105  
Thr Leu Tyr Trp Glu Leu Asn Gln Ala Val Arg Thr Gly Gly Gly  
110 115 120  
Ser Arg Glu Leu Tyr Met Arg His Phe Pro Phe Lys Ala Leu His  
125 130 135  
Phe Tyr Leu Ile Arg Ala Leu Gln Leu Leu Arg Gly Ser Gly Gly  
140 145 150  
Cys Ser Arg Gly Pro Gly Glu Val Val Phe Arg Gly Val Gly Ser  
155 160 165  
Leu Arg Phe Glu Pro Lys Arg Leu Gly Asp Ser Val Arg Leu Gly  
170 175 180  
Gln Phe Ala Ser Ser Ser Leu Asp Lys Ala Val Ala His Arg Phe  
185 190 195  
Gly Glu Lys Arg Arg Gly Cys Val Ser Ala Pro Gly Val Gln Leu  
200 205 210  
Gly Ser Gln Ser Glu Gly Ala Ser Ser Leu Pro Pro Trp Lys Thr  
215 220 225  
Leu Leu Leu Ala Pro Gly Glu Phe Gln Leu Ser Gly Val Gly Pro  
230 235 240

<210> 251  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 251  
ccaccacctg gaggtcctgc agttgggcag gaattccatc cggcagattg 50

<210> 252  
<211> 1076  
<212> DNA  
<213> Homo sapiens

<400> 252  
gtggcttcac ttccagtggct gacttccaga gagcaatatg gctgggttocc 50  
caacatgcct caccctcacc tatatccttt ggcagctcac agggctagca 100  
gctctggag ccgtgaaaga gctggctgggt tccgttggtg gggccgtgac 150  
tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200  
tcaacacaac cctcttctg accatacagc cagaaggggg cactatcata 250  
gtgacccaaa atcgtaatat ggagagagta gacttccagc atggaggcta 300  
ctccctgaag ctacagcaac tgaagaagaa tgactcaggg atctactatg 350  
tggggatata cagctcatca ctccagcagc cctccaccga ggagtacgtg 400  
ctgcatgtct acgagcacct gtcaaacgct aaagtcacca tgggtctgca 450  
gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcattggaac 500  
atggggaaga ggaatgtgatt tatacctgga aggcctctgg gcaagcagcc 550  
aatgagtccc ataattgggtc catcctcccc atctctctga gatggggaga 600  
aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaact 650  
tctcaagccc catccttgcc aggaagctct gtgaagggtg tgetgatgac 700  
ccagattcct ccatggtcct cctgtgtctc ctgttggtgc ccctcctgct 750  
cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800  
aagaagagta cattgaagag aagaagagag tggacatttg tggggaaact 850  
cctaacatat gccccattc tggagagaac acagagtacg acacaatccc 900  
tcacactaat agaacaatcc taaaggaaga tccagcaaat acggtttact 950  
ccactgtgga aataccgaaa aagatggaaa atccccactc actgctcacg 1000  
atgccagaca caccaagctc atttgctatc gagaatgtta tctagacagc 1050  
agtgcactcc cctaagtctc tgctca 1076

<210> 253  
<211> 335  
<212> PRT  
<213> Homo sapiens

<400> 253  
Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp

1	5	10	15
Gln Leu Thr Gly	Ser Ala Ala Ser Gly	Pro Val Lys Glu Leu	Val 30
	20	25	
Gly Ser Val Gly	Gly Ala Val Thr Phe	Pro Leu Lys Ser Lys	Val 45
	35	40	
Lys Gln Val Asp	Ser Ile Val Trp Thr	Phe Asn Thr Thr	Pro Leu 60
	50	55	
Val Thr Ile Gln	Pro Glu Gly Gly Thr	Ile Ile Val Thr Gln	Asn 75
	65	70	
Arg Asn Arg Glu	Arg Val Asp Phe	Pro Asp Gly Gly Tyr	Ser Leu 90
	80	85	
Lys Leu Ser Lys	Leu Lys Lys Asn Asp	Ser Gly Ile Tyr Tyr	Val 105
	95	100	
Gly Ile Tyr Ser	Ser Ser Leu Gln Gln	Pro Ser Thr Gln Glu	Tyr 120
	110	115	
Val Leu His Val	Tyr Glu His Leu Ser	Lys Pro Lys Val Thr	Met 135
	125	130	
Gly Leu Gln Ser	Asn Lys Asn Gly Thr	Cys Val Thr Asn Leu	Thr 150
	140	145	
Cys Cys Met Glu	His Gly Glu Glu Asp	Val Ile Tyr Thr Trp	Lys 165
	155	160	
Ala Leu Gly Gln	Ala Ala Asn Glu Ser	His Asn Gly Ser Ile	Leu 180
	170	175	
Pro Ile Ser Trp	Arg Trp Gly Glu Ser	Asp Met Thr Phe Ile	Cys 195
	185	190	
Val Ala Arg Asn	Pro Val Ser Arg Asn	Phe Ser Ser Pro Ile	Leu 210
	200	205	
Ala Arg Lys Leu	Cys Glu Gly Ala Ala	Asp Asp Pro Asp Ser	Ser 225
	215	220	
Met Val Leu Leu	Cys Leu Leu Leu Val	Pro Leu Leu Leu Ser	Leu 240
	230	235	
Phe Val Leu Gly	Leu Phe Leu Trp Phe	Leu Lys Arg Glu Arg	Gln 255
	245	250	
Glu Glu Tyr Ile	Glu Glu Lys Lys Arg	Val Asp Ile Cys Arg	Glu 270
	260	265	
Thr Pro Asn Ile	Cys Pro His Ser Gly	Glu Asn Thr Glu Tyr	Asp 285
	275	280	
Thr Ile Pro His	Thr Asn Arg Thr Ile	Leu Lys Glu Asp Pro	Ala 300
	290	295	
Asn Thr Val Tyr	Ser Thr Val Glu Ile	Pro Lys Lys Met Glu	Asn 315
	305	310	
Pro His Ser Leu	Leu Thr Met Pro Asp	Thr Pro Arg Leu Phe	Ala

Tyr Glu Asn Val Ile  
335

<210> 254  
<211> 1053  
<212> DNA  
<213> Homo sapiens

<400> 254  
ctgggtcccc aacatgcctc accctcatct atatcctttg gcagctcaca 50  
gggtcagcag cctctggacc cgtgaaagag ctggtcggtt ccgttggtgg 100  
ggccgtgact ttccccctga agtccaaagt aaagcaagtt gactctattg 150  
tctggacctt caacacaacc cctcttgta ccatacagcc agaagggggc 200  
actatcatag tgaccacaaa tcgtaatagg gagagagtag acttcccaga 250  
tggagggtac tccctgaagc tcagcaaaact gaagaagaat gactcagga 300  
tctactatgt ggggatatac agctcatcac tccagcagcc ctccaccag 350  
gagtaactgt tgcattgcta cgagcacctg tcaaagccta aagtcacat 400  
gggtctgcag agcaataaga atggcacctg tgtgacaaat ctgacatgct 450  
gcatggaaca tggggaagag gatgtgattt atacctgaa gccctgggg 500  
caagcagcca atgagtcaca taatgggtcc atcctcccca tctctggag 550  
atggggagaa agtgatatga ccttcattct cgttgccagg aacctgtca 600  
gcagaaaact ctcaagcccc atccttgcca ggaagctctg tgaaggtgct 650  
gctgatgacc cagattcttc catggtcctc ctgtgtctct tgttggtgcc 700  
cctctgtctc agtctctttg tactggggct atttctttgg tttctgaaga 750  
gagagagaca agaagagtag attgaagaga agaagagagt ggacatttgt 800  
cgggaaaact ctaacatatg ccccatctct ggagagaaca cagagtacga 850  
cacaatccct cacactaata gaacaatcct aaaggaagat ccagcaaata 900  
cggtttactc cactgtggaa ataccgaaaa agatggaaaa tccccactca 950  
ctgtctacga tgccagacac accaaggcta ttgctctatg agaattgtat 1000  
ctagacagca gtgcactccc ctaagtctct gctcaaaaaa aaaaaaaaaa 1050  
aaa 1053

<210> 255  
<211> 860  
<212> DNA  
<213> Homo sapiens

<400> 255  
gaaagacgtg gtctgacag acagacaatc ctattcccta ccaaatgaa 50

gatgctgctg ctgctgtgtt tgggactgac cctagtctgt gtccatgcag 100  
 aagaagctag ttctacggga aggaacttta atgtagaaaa gattaatggg 150  
 gaatggcata ctattatcct ggctctgac aaaagagaaa agatagaaga 200  
 acatggcaac tttagacttt ttctggagca aatccatgac ttggagaatt 250  
 cctagtctct taaagtccat actgtaagag atgaagagtg ctccgaatta 300  
 tctatggttg ctgacaaaac agaaaaggct ggtgaatatt ctgtgacgta 350  
 tgatggattc aatacattta ctatacctaa gacagactat gataactttc 400  
 ttatggtctc cctcattaac gaaaaggatg gggaaacctt ccagctgatg 450  
 gggctctatg gccgagaacc agatttgagt tcagacatca aggaaagggt 500  
 tgcacaacta tgtgaggagc atggaatcct tagaataat atcattgacc 550  
 tatccaatgc caatgctgac ctccaggccc gagaatgaag aatggcctga 600  
 gcctccagtg ttgagtggac acttctcacc aggactccac catcatccct 650  
 tcctatccat acagcatccc cagtataaat tctgtgatct gcattccatc 700  
 ctgtctcact gagaagtcca attccagtct atcaacatgt tacctaggat 750  
 acctcatcaa gaatcaaaga cttctttaaa ttctctttg atacaccctt 800  
 gacaattttt catgaaatta ttctcttccc tgttcaataa atgattaccc 850  
 ttgcacttaa 860

<210> 256  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 256  
 Met Lys Met Leu Leu Leu Cys Leu Gly Leu Thr Leu Val Cys  
 1 5 10 15  
 Val His Ala Glu Glu Ala Ser Ser Thr Gly Arg Asn Phe Asn Val  
 20 25 30  
 Glu Lys Ile Asn Gly Glu Trp His Thr Ile Ile Leu Ala Ser Asp  
 35 40 45  
 Lys Arg Glu Lys Ile Glu Glu His Gly Asn Phe Arg Leu Phe Leu  
 50 55 60  
 Glu Gln Ile His Val Leu Glu Asn Ser Leu Val Leu Lys Val His  
 65 70 75  
 Thr Val Arg Asp Glu Glu Cys Ser Glu Leu Ser Met Val Ala Asp  
 80 85 90  
 Lys Thr Glu Lys Ala Gly Glu Tyr Ser Val Thr Tyr Asp Gly Phe  
 95 100 105  
 Asn Thr Phe Thr Ile Pro Lys Thr Asp Tyr Asp Asn Phe Leu Met  
 110 115 120

Ala His Leu Ile Asn Glu Lys Asp Gly Glu Thr Phe Gln Leu Met  
 125 130 135

Gly Leu Tyr Gly Arg Glu Pro Asp Leu Ser Ser Asp Ile Lys Glu  
 140 145 150

Arg Phe Ala Gln Leu Cys Glu Glu His Gly Ile Leu Arg Glu Asn  
 155 160 165

Ile Ile Asp Leu Ser Asn Ala Asn Arg Cys Leu Gln Ala Arg Glu  
 170 175 180

<210> 257

<211> 766

<212> DNA

<213> Homo sapiens

<400> 257

ggctcgagcg tttctgagcc aggggtgacc atgacctgct gcaaggatg 50

gacatcctgc aatggattca gcctgctggt tctactgctg ttaggagtag 100

ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaatgt 150

tctcaaaacc ccattctctg ctttgagtgg tggttccag gaattatagg 200

agcaggctctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250

aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcattttttc 300

agtgtgatca cagtcattgg tgctctgtat tgcagtctga tatccatcca 350

ggctctctta aaaggctctc tcatgtgtaa ttctccaagc aacagtaatg 400

ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450

ttcaacttgc agtggttttt caatgactct tgtgocctc ctactgggtt 500

caataaaacc accagtaacg acaccatggc gagggtgctg agagcatcta 550

gtttccactt cgattctgaa gaaaacaaac ataggcttat ccacttctca 600

gtatttttag gtctattgct tgggtgaatt ctggaggctc tggttgaggct 650

cagtcagata gtcacgggtt tctctggctg tctgtgtgga gtctctaagc 700

gaagaagtca aattgtgtag tttaatggga ataaaatgta agtatcagta 750

gtttgaaaaa aaaaaa 766

<210> 258

<211> 229

<212> PRT

<213> Homo sapiens

<400> 258

Met Thr Cys Cys Glu Gly Trp Thr Ser Cys Asn Gly Phe Ser Leu  
 1 5 10 15

Leu Val Leu Leu Leu Leu Gly Val Val Leu Asn Ala Ile Pro Leu  
 20 25 30

Ile Val Ser Leu Val Glu Glu Asp Gln Phe Ser Gln Asn Pro Ile



	35	40	45
Ser Cys Phe Glu Trp Trp Phe Pro Gly Ile Ile Gly Ala Gly Leu	50	55	60
Met Ala Ile Pro Ala Thr Thr Met Ser Leu Thr Ala Arg Lys Arg	65	70	75
Ala Cys Cys Asn Asn Arg Thr Gly Met Phe Leu Ser Ser Phe Phe	80	85	90
Ser Val Ile Thr Val Ile Gly Ala Leu Tyr Cys Met Leu Ile Ser	95	100	105
Ile Gln Ala Leu Leu Lys Gly Pro Leu Met Cys Asn Ser Pro Ser	110	115	120
Asn Ser Asn Ala Asn Cys Glu Phe Ser Leu Lys Asn Ile Ser Asp	125	130	135
Ile His Pro Glu Ser Phe Asn Leu Gln Trp Phe Phe Asn Asp Ser	140	145	150
Cys Ala Pro Pro Thr Gly Phe Asn Lys Pro Thr Ser Asn Asp Thr	155	160	165
Met Ala Ser Gly Trp Arg Ala Ser Ser Phe His Phe Asp Ser Glu	170	175	180
Glu Asn Lys His Arg Leu Ile His Phe Ser Val Phe Leu Gly Leu	185	190	195
Leu Leu Val Gly Ile Leu Glu Val Leu Phe Gly Leu Ser Gln Ile	200	205	210
Val Ile Gly Phe Leu Gly Cys Leu Cys Gly Val Ser Lys Arg Arg	215	220	225
Ser Gln Ile Val			

<210> 259  
 <211> 434  
 <212> DNA  
 <213> Homo sapiens

<400> 259  
 gtcgaatcca aatcactcat tgtgaaagct gagctcacag cogaataagc 50  
 caccatgagg ctgtcagtgt gtctctgtat ggtctcgtg gccctttgct 100  
 gctaccaggc coactgtctt gtctgccag ctgttgcttc tgagatcaca 150  
 gtctctttat tcttaagtga cgctgcggtt aacctocaa ttgccaaact 200  
 taatccacct ccagaagctc ttgcagccaa gttggaagtg aagcactgca 250  
 ccgatcagat atcttttaag aaacgactct cattgaaaa gtccctggtg 300  
 aaatagttaa aaaatgtggt gtgtgacatg taaaaatgct caacctggtt 350  
 tcctaaagtct tccaacgaca cctgatctt cactaaaaat tgtaaaggtt 400

tcaacacggtt gctttaataa atcacttgcc ctgc 434

<210> 260

<211> 83

<212> PRT

<213> Homo sapiens

<400> 260

Met Arg Leu Ser Val Cys Leu Leu Met Val Ser Leu Ala Leu Cys  
1 5 10 15

Cys Tyr Gln Ala His Ala Leu Val Cys Pro Ala Val Ala Ser Glu  
20 25 30

Ile Thr Val Phe Leu Phe Leu Ser Asp Ala Ala Val Asn Leu Gln  
35 40 45

Val Ala Lys Leu Asn Pro Pro Glu Ala Leu Ala Ala Lys Leu  
50 55 60

Glu Val Lys His Cys Thr Asp Gln Ile Ser Phe Lys Lys Arg Leu  
65 70 75

Ser Leu Lys Lys Ser Trp Trp Lys  
80

<210> 261

<211> 636

<212> DNA

<213> Homo sapiens

<400> 261

atccggttctc tgcgctgcc a gtcaggtga gccctcgcca aggtgacctc 50

gcaggacact ggtgaaggag cagtgaaggaa cctgcagagt cacacagttg 100

ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150

cgccccagtg cctctcccc tgcagccctg cccctcgaa tgtgacatgg 200

agagagtgac cctggccctt ctctactgg caggcctgac tgccttggaa 250

gccaatgacc catttgccaa taaagacgat ccttctact atgactggaa 300

aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350

ggatcgcggc agttctgagt ggcaaatgca aatacaagag cagccagaag 400

cagcacatgc ctgtacctga gaaggccatc ccaactcatc ctccaggctc 450

tgccactact tgctgagcac aggactggcc tccagggatg gcttgaagcc 500

taaacactggc ccccgacacc tcttcccctg ggaggcctta tctcaagga 550

aggacttctc tccaagggca ggctgttagg cccctttctg atcaggaggc 600

ttctttatga attaaactcg cccaccacc cctca 636

<210> 262

<211> 89

<212> PRT

<213> Homo sapiens

<400> 262  
 Met Glu Arg Val Thr Leu Ala Leu Leu Leu Leu Ala Gly Leu Thr  
 1 5 10 15  
 Ala Leu Glu Ala Asn Asp Pro Phe Ala Asn Lys Asp Asp Pro Phe  
 20 25 30  
 Tyr Tyr Asp Trp Lys Asn Leu Gln Leu Ser Gly Leu Ile Cys Gly  
 35 40 45  
 Gly Leu Leu Ala Ile Ala Gly Ile Ala Ala Val Leu Ser Gly Lys  
 50 55 60  
 Cys Lys Tyr Lys Ser Ser Gln Lys Gln His Ser Pro Val Pro Glu  
 65 70 75  
 Lys Ala Ile Pro Leu Ile Thr Pro Gly Ser Ala Thr Thr Cys  
 80 85

<210> 263  
 <211> 1676  
 <212> DNA  
 <213> Homo sapiens

<400> 263  
 ggagaagagg ttgtgtggga caagctgctc ccgacagaag gatgtcgctg 50  
 ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100  
 actcctgctg ctggttgtgg gctcctggct actogcccg atcctggctt 150  
 ggacctatgc cttctataac aactgccgcc ggctccagtg tttccacag 200  
 cccccaaac ggaactggtt ttgggggtcac ctgggctgta tcaactctac 250  
 agaggagggc ttgaaggact cgacccagat gtcgggccacc tattccacag 300  
 gctttacggt atggctgggt cccatcatcc ccttcatcgt tttatgccac 350  
 cctgacacca tccggtctat caccaatgcc tcagctgcca ttgacaccaa 400  
 ggataatctc ttcacaggt tcctgaagcc ctggctggga gaaggatata 450  
 tgctgagtgg cgggtgacaag tggagccgcc accgtcggat gctgacgcc 500  
 gccttcattt tcaacatcct gaagtctat ataacgatct tcaacaagag 550  
 tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600  
 gtgctgtgga catgtttgag cacatcagcc tcatgacctt ggacagtcta 650  
 cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggccacagta 700  
 atatatggcc accatcttgg agctcagtc cctttagtag aaaagaagcc 750  
 agcatatcct ccagcacatg gactttctgt attacctctc ccatgacggg 800  
 cggcgcttcc acagggcctg ccgcctgggt catgacttca cagacgctgt 850  
 catccgggag cggcgctgca cctcccccac tcagggtatt gatgattttt 900  
 tcaaaagacaa agccaagtcc aagacttttg atttcattga tgtgcttctg 950



Ile	Leu	Leu	Ser	Gly	Gly	Asp	Lys	Trp	Ser	Arg	His	Arg	Arg	Met
				140					145					150
Leu	Thr	Pro	Ala	Phe	His	Phe	Asn	Ile	Leu	Lys	Ser	Tyr	Ile	Thr
				155					160					165
Ile	Phe	Asn	Lys	Ser	Ala	Asn	Ile	Met	Leu	Asp	Lys	Trp	Gln	His
				170					175					180
Leu	Ala	Ser	Glu	Gly	Ser	Ser	Arg	Leu	Asp	Met	Phe	Glu	His	Ile
				185					190					195
Ser	Leu	Met	Thr	Leu	Asp	Ser	Leu	Gln	Lys	Cys	Ile	Phe	Ser	Phe
				200					205					210
Asp	Ser	His	Cys	Gln	Glu	Arg	Pro	Ser	Glu	Tyr	Ile	Ala	Thr	Ile
				215					220					225
Leu	Glu	Leu	Ser	Ala	Leu	Val	Glu	Lys	Arg	Ser	Gln	His	Ile	Leu
				230					235					240
Gln	His	Met	Asp	Phe	Leu	Tyr	Tyr	Leu	Ser	His	Asp	Gly	Arg	Arg
				245					250					255
Phe	His	Arg	Ala	Cys	Arg	Leu	Val	His	Asp	Phe	Thr	Asp	Ala	Val
				260					265					270
Ile	Arg	Glu	Arg	Arg	Arg	Thr	Leu	Pro	Thr	Gln	Gly	Ile	Asp	Asp
				275					280					285
Phe	Phe	Lys	Asp	Lys	Ala	Lys	Ser	Lys	Thr	Leu	Asp	Phe	Ile	Asp
				290					295					300
Val	Leu	Leu	Leu	Ser	Lys	Asp	Glu	Asp	Gly	Lys	Ala	Leu	Ser	Asp
				305					310					315
Glu	Asp	Ile	Arg	Ala	Glu	Ala	Asp	Thr	Phe	Met	Phe	Gly	Gly	His
				320					325					330
Asp	Thr	Thr	Ala	Ser	Gly	Leu	Ser	Trp	Val	Leu	Tyr	Asn	Leu	Ala
				335					340					345
Arg	His	Pro	Glu	Tyr	Gln	Glu	Arg	Cys	Arg	Gln	Glu	Val	Gln	Glu
				350					355					360
Leu	Leu	Lys	Asp	Arg	Asp	Pro	Lys	Glu	Ile	Glu	Trp	Asp	Asp	Leu
				365					370					375
Ala	Gln	Leu	Pro	Phe	Leu	Thr	Met	Cys	Val	Lys	Glu	Ser	Leu	Arg
				380					385					390
Leu	His	Pro	Pro	Ala	Pro	Phe	Ile	Ser	Arg	Cys	Cys	Thr	Gln	Asp
				395					400					405
Ile	Val	Leu	Pro	Asp	Gly	Arg	Val	Ile	Pro	Lys	Gly	Ile	Thr	Cys
				410					415					420
Leu	Ile	Asp	Ile	Ile	Gly	Val	His	His	Asn	Pro	Thr	Val	Trp	Pro
				425					430					435
Asp	Pro	Glu	Val	Tyr	Asp	Pro	Phe	Arg	Phe	Asp	Pro	Glu	Asn	Ser
				440					445					450

Lys Gly Arg Ser Pro Leu Ala Phe Ile Pro Phe Ser Ala Gly Pro  
 455 460 465  
 Arg Asn Cys Ile Gly Gln Ala Phe Ala Met Ala Glu Met Lys Val  
 470 475 480  
 Val Leu Ala Leu Met Leu Leu His Phe Arg Phe Leu Pro Asp His  
 485 490 495  
 Thr Glu Pro Arg Arg Lys Leu Glu Leu Ile Met Arg Ala Glu Gly  
 500 505 510  
 Gly Leu Trp Leu Arg Val Glu Pro Leu Asn Val Gly Leu Gln  
 515 520

<210> 265  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 265  
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 tcttctctc cttgactcca gggaaatata ctttcaactc tcagcacctc 150  
 atgaagacgc gcgcttaact cgggaggagc tagaaagagc ttcccttcta 200  
 cagatattgc cagagatgct ggggtgcagaa agagggggata ttctcaggaa 250  
 agcagactca agtaccaca tttttaaccc aagaggaaat ttgagaaagt 300  
 ttcaggattt ctctggacaa gatcctaaca ttttactgag tcctcttttg 350  
 gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400  
 gaaatactgt gctgaagtg aaataagcat ctgttagtca gtcagaaac 450  
 acccatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500  
 tggagaaaaa ctaggcaaac tacacctgtg tcattgttac ctggaataata 550  
 aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

<210> 266  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 266  
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 20 25 30  
 Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu  
 35 40 45  
 Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu  
 50 55 60



Ala Lys Leu Gln Pro Arg Ala Leu Ala Gly Trp Leu Arg Pro Glu  
50 55 60  
Asp Gly Gly Gln Ala Glu Gly Ala Glu Asp Glu Leu Glu Val Arg  
65 70 75  
Phe Asn Ala Pro Phe Asp Val Gly Ile Lys Leu Ser Gly Val Gln  
80 85 90  
Tyr Gln Gln His Ser Gln Ala Leu Gly Lys Phe Leu Gln Asp Ile  
95 100 105  
Leu Trp Glu Glu Ala Lys Glu Ala Pro Ala Asp Lys  
110 115

<210> 269

<211> 1332

<212> DNA

<213> Homo sapiens

<400> 269

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agaatatgaa cacgtggctg ctgttcctcc ccctgttccc ggtgcagggtg 150  
cagaccctga tagtcgtgat catcggggatg ctctgtctcc tgctggactt 200  
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cacgcctggg gccagagtct ttgtcccccg tgtgcatgct tgttcagggt 400  
cagcctctcc cagaagttag atcatggaca aaaagggcaa atcacaggaa 450  
gaaattaaat ccattgaggac ccagcaggcc cagcaagaag ctgaactcac 500  
gccgagacct gcaggagtgg tggcagggtc ttgaagtaac aagtttaaaa 550  
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tcagggcaga ggaggttggg tgggtcaggc tctgggctca cctccatctc 1050



cagagcatcc cctgcctgca gttgtggcaa gaacgcccag ctcagaatga 1100  
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 accactgtcc ccacacaacc ctggggatgt tttaaaacac acacctctaa 1200  
 cgcatactct acagtcaactg ttgtcttgcc tgagggttga atttttttta 1250  
 atgaaagtgc aatgaaaatc actggattaa atcctacgga cacagagctg 1300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1332

<210> 270  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 270  
 Met Asn Thr Trp Leu Leu Phe Leu Pro Leu Phe Pro Val Gln Val  
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 Gln Thr Leu Ile Val Val Ile Ile Gly Met Leu Val Leu Leu Leu  
 20 25 30  
 Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His  
 35 40 45  
 Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln  
 50 55 60  
 Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr  
 65 70 75  
 Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val  
 80 85 90  
 Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu  
 95 100 105  
 Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met  
 110 115 120  
 Arg Thr Gln Gln Ala Gln Gln Glu Ala Glu Leu Thr Pro Arg Pro  
 125 130 135  
 Ala Gly Val Val Pro Gly Ala  
 140

<210> 271  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 271  
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 cctatctgcc atcctcagca tgctatcact cagcttctcc acaacatccc 150  
 tgctcagcaa ctactggttt gtgggcacac agaagtgccc caagcccctg 200  
 tgcagaaaag gtctggcagc caagtgcctt gacatgccag tgtccctgga 250

tggagatacc aacacatcca cccaggaggt ggtacaatac aactgggaga 300  
 ctggggatga cgggttctcc ttccggagct tccggagtgg catgtggcta 350  
 tcctgtgagg aaactgtgga agaaccaggg gagaggtgcc gaagtttcat 400  
 tgaacttaca ccaccagcca agagaggtga gaaaggacta ctggaatttg 450  
 ccaogttgca aggcccatgt caccocactc tccgatttgg agggaagcgg 500  
 ttgatggaga aggcctccct cccctccct ccttgggggc tttgtggcaa 550  
 aaatcctatg gttatccctg ggaacgcaga tcacctacat cggacttcaa 600  
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 tggctgggcc ttctacatgg cctggctctc ctccacctgc tgcattggct 850  
 cggctgtcac cacttcaac acgtacacca ggatgggtgt ggagtccaag 900  
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 ctttgaccag ctaccaccag tatcataatc agcccatcca ctctgtctct 1050  
 gagggagtgc acttctactc cgagctgcgg aacaaggatg ttcaaaggag 1100  
 ggccagccag gagctgaaag aagcagttag gtcctctgta gaggaagagc 1150  
 agtgtagga gttaaagcgg tttggggagt aggcttgagc cctaccttac 1200  
 acgtctgctg attatcaaca tgtgcttaag ccaacatccg tctcttgagc 1250  
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 tctaaagga ttccctgggt ccaactgctct ctttctctct acagctccat 1350  
 cttgtttcac ccacccaca tctcacacat ccagaattcc cttctttact 1400  
 gatagtttct gtgcaggtt ctgggctaaa ccatggagat aaaaagaaga 1450  
 gtaaaatata cttcccgacc ttaaggatct gaaa 1484

<210> 272

<211> 285

<212> PRT

<213> Homo sapiens

<400> 272

Met	Ala	Lys	Met	Glu	Leu	Ser	Lys	Ala	Phe	Ser	Gly	Gln	Arg	Thr
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Leu	Leu	Ser	Ala	Ile	Leu	Ser	Met	Leu	Ser	Leu	Ser	Phe	Ser	Thr
				20					25					30

Thr	Ser	Leu	Leu	Ser	Asn	Tyr	Trp	Phe	Val	Gly	Thr	Gln	Lys	Val
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	35		40		45
Pro Lys Pro Leu	Cys 50	Glu Lys Gly Leu	Ala 55	Ala Lys Cys Phe	Asp 60
Met Pro Val Ser	Leu 65	Asp Gly Asp Thr	Asn 70	Thr Ser Thr Gln	Glu 75
Val Val Gln Tyr	Asn 80	Trp Glu Thr Gly	Asp 85	Asp Arg Phe Ser	Phe 90
Arg Ser Phe Arg	Ser 95	Gly Met Trp Leu	Ser 100	Cys Glu Glu Thr	Val 105
Glu Glu Pro Gly	Glu 110	Arg Cys Arg Ser	Phe 115	Ile Glu Leu Thr	Pro 120
Pro Ala Lys Arg	Gly 125	Glu Lys Gly Leu	Leu 130	Glu Phe Ala Thr	Leu 135
Gln Gly Pro Cys	His 140	Pro Thr Leu Arg	Phe 145	Gly Gly Lys Arg	Leu 150
Met Glu Lys Ala	Ser 155	Leu Pro Ser Pro	Pro 160	Leu Gly Leu Cys	Gly 165
Lys Asn Pro Met	Val 170	Ile Pro Gly Asn	Ala 175	Asp His Leu His	Arg 180
Thr Ser Ile His	Gln 185	Leu Pro Pro Ala	Thr 190	Asn Arg Leu Ala	Thr 195
His Trp Glu Pro	Cys 200	Leu Trp Ala Gln	Thr 205	Glu Arg Leu Cys	Cys 210
Cys Phe Leu Cys	Pro 215	Val Arg Ser Pro	Gly 220	Asp Gly Gly Pro	His 225
Asp Val Phe Thr	Ser 230	Leu Pro Ser Asp	Cys 235	Gln Leu Gly Ser	Arg 240
Arg Leu Glu Thr	Thr 245	Cys Leu Glu Leu	Trp 250	Leu Gly Leu Leu	His 255
Gly Leu Ala Leu	Leu 260	His Leu Leu His	Gly 265	Val Gly Cys His	His 270
Leu Gln His Val	His 275	Gln Asp Gly Ala	Gly 280	Val Gln Val Gln	Ala 285

&lt;210&gt; 273

&lt;211&gt; 1158

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 273

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cttggtctcc tgtctttatg tctttctcct ctctctattc tgtcatctcc 100  
ctcacttaag tctcagcct gtcagcagct cctgtggaca ttgccatccc 150  
ctctggttagc cttcagagca aacaggacaa cctatgttat ggatgtttcc 200

accaaccagg gtagtggcat ggagcaccgt aaccatctgt gcttctgtga 250  
 tctctatgac agagccactt ctccacctct gaaatgttcc ctgctctgaa 300  
 atctggcatg agatggcaca ggtgaccacg cagaagccac cagaatcttg 350  
 cctgcctcat tctctctccc aagtctgttc tcttattgtc aacctcagca 400  
 caacaggctg gcgccaatgg cattacagag aaagcaatct gtgtggctag 450  
 tgggcagatt accatgcaag cccagggaga aatggaggag ctttgtagcc 500  
 acctccctgt cagccagtat taacatgtcc ccttccccct gccccgccgt 550  
 agattcagga cattcgcccc tgtgtgccac caaaccagga ctttccctt 600  
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 aatggggcca tgtgaatgca gctgctctgt tctccctacc ctgaggaaaa 800  
 accaaaggga agcaacagga acttctgcaa ctggttttta tcggaaagat 850  
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 tcagacctgg aattctgatt ccaaactctt tattactttg ggaagtcact 1000  
 cagcctcccc gtagccatct ccaggggtgac ggaaccocagt gtattacctg 1050  
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<210> 274

<211> 86

<212> PRT

<213> Homo sapiens

<400> 274

Met Trp Leu Pro Leu Gly Leu Leu Ser Leu Cys Leu Ser Pro Leu  
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Pro Ile Leu Ser Ser Pro Ser Leu Lys Ser Gln Ala Cys Gln Gln  
20 25 30

Leu Leu Trp Thr Leu Pro Ser Pro Leu Val Ala Phe Arg Ala Asn  
35 40 45

Arg Thr Thr Tyr Val Met Asp Val Ser Thr Asn Gln Gly Ser Gly  
50 55 60

Met Glu His Arg Asn His Leu Cys Phe Cys Asp Leu Tyr Asp Arg  
65 70 75

Ala Thr Ser Pro Pro Leu Lys Cys Ser Leu Leu  
80 85

<210> 275  
 <211> 2694  
 <212> DNA  
 <213> Homo sapiens

<400> 275  
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 atgtgccctt ccaatataca acaataactg gccctctttt gttctatttt 200  
 tttacatctt ttcacctatt ccatactgca tagcaagaag attagtggat 250  
 gatacagatg ctatgagtaa cgcttctaag gaacttgcca tttttcttac 300  
 aacgggcatt gtcgtgtcag cttttggact cctattgtta ttgcccagag 350  
 cacatctgat tgagtggga gcttgtgcac ttgtcttcac aggaacaca 400  
 gtcactcttg caactatact aggccttttc ttggtcttgg gaagcaatga 450  
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 atggacttcc tgtcatttgt tggccattca cgcacacagg agatggggca 550  
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 attaaaagga ttttctcttt tggaaaagct tgaactgatt cacactttac 700  
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 tgcccatgcc ctccgttaag ggttgtgtgt tttactggta gacagatgtt 1100  
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 acatttttga gataagggtt ttttttatgt ttattattgt tagagtgtat 1250  
 tgcaattgtg gaagaaatga cattgaaatt ccagtttttg aatcctgttt 1300  
 ctattttata gtgaaatttg tgatctctta tcaacctttc atgtttttacc 1350  
 ctgttaaaat ggacatacat ggaaccacta ctgatgaggg acagttgtat 1400  
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aataacactt agaagtgttt acttacctgg aaaataattg ctatgcgcta 1550  
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acctgaccaaa aaaattccca gtaaccaggc atgatcaatt tatagtggtc 1900  
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tgatgaaaca ataaagattt taaatatcta ttttaaaaaa aaaa 2694

<210> 276

<211> 131

<212> PRT

<213> Homo sapiens

<400> 276

Met Ala Gly Ile Lys Ala Leu Ile Ser Leu Ser Phe Gly Gly Ala  
1 5 10 15

Ile Gly Leu Met Phe Leu Met Leu Gly Cys Ala Leu Pro Ile Tyr  
20 25 30

Asn Lys Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser







tttgaagatc tgtccatatt caggaatctg agagtgtaaa aaaggtggcc 2600  
 ataagacaga gagagaataa tcgtgctttg ttttatgcta ctccctccac 2650  
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 atttcatgaa gaaccattgg aaagaggaat ctgcaatctg ggagcttaag 2750  
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 gtgtttccgg ctatttttag tcgacttgtc agcaagtttg atgcctagtc 3800  
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 gtcaaaaata acataaatta tctcctctag atgagtggcg atgttggctg 4000  
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 gtca 4104

<210> 278  
 <211> 522  
 <212> PRT  
 <213> Homo sapiens

<400> 278

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			20						25					30	
Met	Leu	Pro	Ala	Ala	Pro	Ser	Gly	Cys	Pro	Gln	Leu	Cys	Arg	Cys	
			35						40					45	
Glu	Gly	Arg	Leu	Leu	Tyr	Cys	Glu	Ala	Leu	Asn	Leu	Thr	Glu	Ala	
			50						55					60	
Pro	His	Asn	Leu	Ser	Gly	Leu	Leu	Gly	Leu	Ser	Leu	Arg	Tyr	Asn	
				65					70					75	
Ser	Leu	Ser	Glu	Leu	Arg	Ala	Gly	Gln	Phe	Thr	Gly	Leu	Met	Gln	
			80						85					90	
Leu	Thr	Trp	Leu	Tyr	Leu	Asp	His	Asn	His	Ile	Cys	Ser	Val	Gln	
			95						100					105	
Gly	Asp	Ala	Phe	Gln	Lys	Leu	Arg	Arg	Val	Lys	Glu	Leu	Thr	Leu	
			110						115					120	
Ser	Ser	Asn	Gln	Ile	Thr	Gln	Leu	Pro	Asn	Thr	Thr	Phe	Arg	Pro	
			125						130					135	
Met	Pro	Asn	Leu	Arg	Ser	Val	Asp	Leu	Ser	Tyr	Asn	Lys	Leu	Gln	
			140						145					150	
Ala	Leu	Ala	Pro	Asp	Leu	Phe	His	Gly	Leu	Arg	Lys	Leu	Thr	Thr	
			155						160					165	
Leu	His	Met	Arg	Ala	Asn	Ala	Ile	Gln	Phe	Val	Pro	Val	Arg	Ile	
			170						175					180	
Phe	Gln	Asp	Cys	Arg	Ser	Leu	Lys	Phe	Leu	Asp	Ile	Gly	Tyr	Asn	
			185						190					195	
Gln	Leu	Lys	Ser	Leu	Ala	Arg	Asn	Ser	Phe	Ala	Gly	Leu	Phe	Lys	
			200						205					210	
Leu	Thr	Glu	Leu	His	Leu	Glu	His	Asn	Asp	Leu	Val	Lys	Val	Asn	
			215						220					225	
Phe	Ala	His	Phe	Pro	Arg	Leu	Ile	Ser	Leu	His	Ser	Leu	Cys	Leu	
			230						235					240	
Arg	Arg	Asn	Lys	Val	Ala	Ile	Val	Val	Ser	Ser	Leu	Asp	Trp	Val	
			245						250					255	
Trp	Asn	Leu	Glu	Lys	Met	Asp	Leu	Ser	Gly	Asn	Glu	Ile	Glu	Tyr	
			260						265					270	
Met	Glu	Pro	His	Val	Phe	Glu	Thr	Val	Pro	His	Leu	Gln	Ser	Leu	
			275						280					285	

Gln Leu Asp Ser Asn Arg Leu Thr Tyr Ile Glu Pro Arg Ile Leu  
290 295 300

Asn Ser Trp Lys Ser Leu Thr Ser Ile Thr Leu Ala Gly Asn Leu  
305 310 315

Trp Asp Cys Gly Arg Asn Val Cys Ala Leu Ala Ser Trp Leu Ser  
320 325 330

Asn Phe Gln Gly Arg Tyr Asp Gly Asn Leu Gln Cys Ala Ser Pro  
335 340 345

Glu Tyr Ala Gln Gly Glu Asp Val Leu Asp Ala Val Tyr Ala Phe  
350 355 360

His Leu Cys Glu Asp Gly Ala Glu Pro Thr Ser Gly His Leu Leu  
365 370 375

Ser Ala Val Thr Asn Arg Ser Asp Leu Gly Pro Pro Ala Ser Ser  
380 385 390

Ala Thr Thr Leu Ala Asp Gly Gly Glu Gly Gln His Asp Gly Thr  
395 400 405

Phe Glu Pro Ala Thr Val Ala Leu Pro Gly Gly Glu His Ala Glu  
410 415 420

Asn Ala Val Gln Ile His Lys Val Val Thr Gly Thr Met Ala Leu  
425 430 435

Ile Phe Ser Phe Leu Ile Val Val Leu Val Leu Tyr Val Ser Trp  
440 445 450

Lys Cys Phe Pro Ala Ser Leu Arg Gln Leu Arg Gln Cys Phe Val  
455 460 465

Thr Gln Arg Arg Lys Gln Lys Gln Lys Gln Thr Met His Gln Met  
470 475 480

Ala Ala Met Ser Ala Gln Glu Tyr Tyr Val Asp Tyr Lys Pro Asn  
485 490 495

His Ile Glu Gly Ala Leu Val Ile Ile Asn Glu Tyr Gly Ser Cys  
500 505 510

Thr Cys His Gln Gln Pro Ala Arg Glu Cys Glu Val  
515 520

<210> 279

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 279

tccgtgcagg gggacgcctt tcagaaactg cgccgagtta aggaac 46

<210> 280

<211> 709

<212> DNA

<213> Homo sapiens

<400> 280  
 gtgcaaggag ccgagggcgag atgggcgtcc tgggcccgggt cctgctgtgg 50  
 ctgcagctct gcgcactgac ccagggcggtc tccaaactct gggcccccaa 100  
 cacggacttc gacgtcgag ccaactggag ccagaaccgg accccgtgcg 150  
 ccggcggcgc cgttgagttc ccggcggaca agatggtgct agtctgtgtg 200  
 caagaaggtc acgccgtctc agacatgctc ctgccgtgg atggggaact 250  
 cgtcctggct tcaggagccg gattcggcgt ctacagcgtg ggctcgacc 300  
 tggactgtgg cgccggcgaa cctgccgtct tccgcgaetc tgaccgttc 350  
 tcttgcatg acccgacact gtggcgctct ggggacgagg cacctggcct 400  
 cttctctgtg gacgccgagc cgtgcccctg ccgccacgac gacgtcttct 450  
 ttccgcctag tgcctccttc cgcgtggggc tcggccctgg cgtagccccc 500  
 gtgcgtgtcc gcagcatctc ggctctgggc cggacgttca cgcgcgacga 550  
 ggacctggct gtttctctg cgtcccgcgc gggccgccta cgctccacg 600  
 ggccgggcgc gctgagcgtg ggccccgagg actgcgcgga ccgctcgggc 650  
 tgcgtctcgc gcaacgcgga ggccgagccg tggatctcgc cgccctgct 700  
 ccagccct 709

<210> 281  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 281  
 Met Gly Val Leu Gly Arg Val Leu Leu Trp Leu Gln Leu Cys Ala  
 1 5 10 15  
 Leu Thr Gln Ala Val Ser Lys Leu Trp Val Pro Asn Thr Asp Phe  
 20 25 30  
 Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly  
 35 40 45  
 Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val  
 50 55 60  
 Gln Glu Gly His Ala Val Ser Asp Met Leu Leu Pro Leu Asp Gly  
 65 70 75  
 Glu Leu Val Leu Ala Ser Gly Ala Gly Phe Gly Val Ser Asp Val  
 80 85 90  
 Gly Ser His Leu Asp Cys Gly Ala Gly Glu Pro Ala Val Phe Arg  
 95 100 105  
 Asp Ser Asp Arg Phe Ser Trp His Asp Pro His Leu Trp Arg Ser  
 110 115 120  
 Gly Asp Glu Ala Pro Gly Leu Phe Phe Val Asp Ala Glu Arg Val  
 125 130 135

Pro Cys Arg His Asp Asp Val Phe Phe Pro Pro Ser Ala Ser Phe  
140 145 150

Arg Val Gly Leu Gly Pro Gly Ala Ser Pro Val Arg Val Arg Ser  
155 160 165

Ile Ser Ala Leu Gly Arg Thr Phe Thr Arg Asp Glu Asp Leu Ala  
170 175 180

Val Phe Leu Ala Ser Arg Ala Gly Arg Leu Arg Phe His Gly Pro  
185 190 195

Gly Ala Leu Ser Val Gly Pro Glu Asp Cys Ala Asp Pro Ser Gly  
200 205 210

Cys Val Cys Gly Asn Ala Glu Ala Gln Pro Trp Ile Cys Ala Ala  
215 220 225

Leu Leu Gln Pro

<210> 282  
<211> 644  
<212> DNA  
<213> Homo sapiens

<400> 282  
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gaagcgaatg tttagacctt ctgttttgat tgcaactatc atggtgtgtg 100  
tgtgttttgc aattaccttg tggtctgcct ttgtgtggca taacaaggga 150  
cttgcaacta tcttctgcat tttagcagtct ttggcattga cgtggtacag 200  
ccttctcttc ataccatttg caaggagatgc tgtgaagaag tgttttgcog 250  
tgtgtcttgc ataattcatg gccagtttta tgaagctttg gaaggcacta 300  
tggacagaag ctggtggaca gttttgtaac tatcttcgaa acctctgtct 350  
tacagacatg tgccttttat cttgcagcaa tgtgttgctt gtgattcgaa 400  
catttgaggg ttacttttgg aagcaacaat acattctcga acctgaatgt 450  
cagtgcaca ggatgagaag tgggttctgt atcttgtgga gtggaatctt 500  
cctcatgtac ctgtttcttc tctggatgtt gtccactga attccatga 550  
atacaaacct attcagcaac agcaaaaaaa aaaaaaaaaa aaaaaaaaaa 600  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 283  
<211> 77  
<212> PRT  
<213> Homo sapiens

<400> 283  
Met Gly Pro Val Lys Gln Leu Lys Arg Met Phe Glu Pro Thr Arg  
1 5 10 15  
Leu Ile Ala Thr Ile Met Val Leu Leu Cys Phe Ala Leu Thr Leu

	20		25		30
Cys Ser Ala Phe Trp	Trp His Asn Lys	Gly Leu Ala Leu Ile Phe			
	35	40			45
Cys Ile Leu Gln Ser	Leu Ala Leu Thr	Trp Tyr Ser Leu Ser Phe			
	50	55			60
Ile Pro Phe Ala Arg	Asp Ala Val Lys	Lys Cys Phe Ala Val Cys			
	65	70			75
Leu Ala					

<210> 284  
 <211> 2623  
 <212> DNA  
 <213> Homo sapiens

<400> 284  
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 ctcccgccgt tacccgcggc gcgcccagg gagtctcttc cagaccctcc 100  
 ctcccggtgc tccaaactaa tacggactga acggatcgct gcgaggggtg 150  
 gagagaaaaat tagggggaga aaggacagag agagcaacta ccatccatag 200  
 ccagatagat tatcttacac tgaactgac aagtactttg aaaatgactt 250  
 cgaaatttat ctgtgtgtcc ttcatacttg ctgcactgag tctttcaacc 300  
 accttttctc tccaaactaga ccagcaaaag gttctactag tttcttttga 350  
 tggattccgt tgggattact tatataaagt tccaacgcc cattttcatt 400  
 atattatgaa atagtgtgtt cactggaagc aagtactaa tgtttttatt 450  
 acaaaaaacct accctaacca ttatactttg gtaactggcc tctttgcaga 500  
 gaatcatggg attgttgcaa atgatatgtt tgatcttatt cggaacaat 550  
 ctttctcctt ggatcacatg aatatttatg attccaagt ttgggaagaa 600  
 gcgacaccaa tatgatcac aaaccagagg gcaggacata ctagtgtgtc 650  
 agccatgtgg ccggaacag atgtaaaaat acataagcgc ttcttactc 700  
 attacatgcc ttacaatgag tcagtttcat tgaagatag agtgccaaa 750  
 attgttgaat ggtttacgtc aaaagagccc ataatcttg gtcttctcta 800  
 ttgggaagac cctgatgaca tgggccacca tttgggacct gacagtccgc 850  
 tcatggggcc tgtcatttca gatattgaca agaagtttag atatctcata 900  
 caaatgtcta aaaaggcaaa gttgtggaac actctgaacc taatcatcac 950  
 aagtgatcat ggaatgacgc agtgctctga ggaaaggtta atagaacttg 1000  
 accagtaacct ggataaagac cactataccc tgattgatca atctccagta 1050  
 gcagccatct tgccaaaaga aggtaaattt gatgaagtct atgaagcact 1100

aactcacgct catcctaato ttactgttta caaaaaagaa gacgttccag 1150  
aaaggtggca ttacaaatac aacagtcgaa ttcaaccaat catagcagtg 1200  
gctgatgaag ggtggcacat ttacagaat aagttagatg actttctgtt 1250  
aggcaaccac ggttacgata atgcgttagc agatatgcat ccaatatttt 1300  
tagccatggt tctgtccttc agaaagaatt tctcaaaaga agccatgaac 1350  
tccacagatt tgtacccact actatgccac ctctcaata tcaactgcat 1400  
gccacacaat ggatcattct ggaatgtcca ggatctgctc aattcagcaa 1450  
tgccaagggg ggtcccttat acacagagta ctatactctt ccttggtagt 1500  
gttaaacacc cagaatatga ccaagagggg tcataccctt atttcatagg 1550  
ggtctctctt ggcagcatta tagtgattgt attttttgta atttccatta 1600  
agcatttaat tcacagtcac atacctgctt tacaagatat gcatgctgaa 1650  
atagctcaac cattattaca agcctaattg tactttgaag tggatttgca 1700  
tattgaagtg gagattccat aattatgtca gtgttttaag gtttcaaatt 1750  
ctgggaaacc agttccaaac atctgcagaa accattaagc agttacatat 1800  
ttaggttatac acacacacac acacacacac atacacacac acggacacaa 1850  
atactttacac ctgcaaagga ataaagatgt gagagtatgt ctccattgtt 1900  
cactgtagca tagggataga taagatcctg ctttatttgg acttggcgca 1950  
gataatgtat atatttagca actttgcact atgtaaagta ccttatatat 2000  
tgcactttaa atttctctcc tgatgggtac ttttaattga aatgcacttt 2050  
atggacagtt atgtcttata acttgattga aaatgacaac tttttgcacc 2100  
catgtcacag aataactgtt acgcattgtt caaactgaag gaaatttcta 2150  
ataatccga ataataaaca tagaaatcta tctocataaa ttgagagaag 2200  
aagaagggtga taagtgttga aaattaaatg tgataacctt tgaaccttga 2250  
attttggaga tgtattccca acagcagaat gcaactgtgg gcatttcttg 2300  
tcttatttct tccagagaa cgtgggtttc atttattttt ccttcaaaag 2350  
agagtcaaat actgacagat tegtctctaa tatattgttt ctgtcataaa 2400  
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aagacaccat gaataactt tcttcttata tagttcagca atggcctgaa 2500  
tagaagcaac caggcaccat ctacgcaatg ttttctcttg tttgtaatta 2550  
ttgtctcctt tgaaaattaa atcactatta attacattaa aaatcaaaatt 2600  
ggataaaaaa aaaaaaaaaa aaa 2623

<210> 285

<211> 477  
 <212> PRT  
 <213> Homo sapiens

<400> 285

Met	Thr	Ser	Lys	Phe	Ile	Leu	Val	Ser	Phe	Ile	Leu	Ala	Ala	Leu
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Ser	Leu	Ser	Thr	Thr	Phe	Ser	Leu	Gln	Leu	Asp	Gln	Gln	Lys	Val
			20						25					30
Leu	Leu	Val	Ser	Phe	Asp	Gly	Phe	Arg	Trp	Asp	Tyr	Leu	Tyr	Lys
			35						40					45
Val	Pro	Thr	Pro	His	Phe	His	Tyr	Ile	Met	Lys	Tyr	Gly	Val	His
				50					55					60
Val	Lys	Gln	Val	Thr	Asn	Val	Phe	Ile	Thr	Lys	Thr	Tyr	Pro	Asn
				65					70					75
His	Tyr	Thr	Leu	Val	Thr	Gly	Leu	Phe	Ala	Glu	Asn	His	Gly	Ile
				80					85					90
Val	Ala	Asn	Asp	Met	Phe	Asp	Pro	Ile	Arg	Asn	Lys	Ser	Phe	Ser
				95					100					105
Leu	Asp	His	Met	Asn	Ile	Tyr	Asp	Ser	Lys	Phe	Trp	Glu	Glu	Ala
				110					115					120
Thr	Pro	Ile	Trp	Ile	Thr	Asn	Gln	Arg	Ala	Gly	His	Thr	Ser	Gly
				125					130					135
Ala	Ala	Met	Trp	Pro	Gly	Thr	Asp	Val	Lys	Ile	His	Lys	Arg	Phe
				140					145					150
Pro	Thr	His	Tyr	Met	Pro	Tyr	Asn	Glu	Ser	Val	Ser	Phe	Glu	Asp
				155					160					165
Arg	Val	Ala	Lys	Ile	Val	Glu	Trp	Phe	Thr	Ser	Lys	Glu	Pro	Ile
				170					175					180
Asn	Leu	Gly	Leu	Leu	Tyr	Trp	Glu	Asp	Pro	Asp	Asp	Met	Gly	His
				185					190					195
His	Leu	Gly	Pro	Asp	Ser	Pro	Leu	Met	Gly	Pro	Val	Ile	Ser	Asp
				200					205					210
Ile	Asp	Lys	Lys	Leu	Gly	Tyr	Leu	Ile	Gln	Met	Leu	Lys	Lys	Ala
				215					220					225
Lys	Leu	Trp	Asn	Thr	Leu	Asn	Leu	Ile	Ile	Thr	Ser	Asp	His	Gly
				230					235					240
Met	Thr	Gln	Cys	Ser	Glu	Glu	Arg	Leu	Ile	Glu	Leu	Asp	Gln	Tyr
				245					250					255
Leu	Asp	Lys	Asp	His	Tyr	Thr	Leu	Ile	Asp	Gln	Ser	Pro	Val	Ala
				260					265					270
Ala	Ile	Leu	Pro	Lys	Glu	Gly	Lys	Phe	Asp	Glu	Val	Tyr	Glu	Ala
				275					280					285
Leu	Thr	His	Ala	His	Pro	Asn	Leu	Thr	Val	Tyr	Lys	Lys	Glu	Asp



290	295	300
Val Pro Glu Arg Trp His Tyr Lys Tyr	Asn Ser Arg Ile Gln Pro	
305	310	315
Ile Ile Ala Val Ala Asp Glu Gly Trp	His Ile Leu Gln Asn Lys	
320	325	330
Ser Asp Asp Phe Leu Leu Gly Asn His	Gly Tyr Asp Asn Ala Leu	
335	340	345
Ala Asp Met His Pro Ile Phe Leu Ala	His Gly Pro Ala Phe Arg	
350	355	360
Lys Asn Phe Ser Lys Glu Ala Met Asn	Ser Thr Asp Leu Tyr Pro	
365	370	375
Leu Leu Cys His Leu Leu Asn Ile Thr	Ala Met Pro His Asn Gly	
380	385	390
Ser Phe Trp Asn Val Gln Asp Leu Leu	Asn Ser Ala Met Pro Arg	
395	400	405
Val Val Pro Tyr Thr Gln Ser Thr Ile	Leu Leu Pro Gly Ser Val	
410	415	420
Lys Pro Ala Glu Tyr Asp Gln Glu Gly	Ser Tyr Pro Tyr Phe Ile	
425	430	435
Gly Val Ser Leu Gly Ser Ile Ile Val	Ile Val Phe Phe Val Ile	
440	445	450
Phe Ile Lys His Leu Ile His Ser Gln	Ile Pro Ala Leu Gln Asp	
455	460	465
Met His Ala Glu Ile Ala Gln Pro Leu	Leu Gln Ala	
470	475	

<210> 286  
 <211> 1337  
 <212> DNA  
 <213> Homo sapiens

<400> 286  
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 cgggaggccc aggacaggcc caccctgcgg ggcgggaggg agccgggggtg 100  
 agggagggtga agaaaccaag acgcagagag gccaaagccc ttgccttggg 150  
 tcacacagcc aaaggaggca gagccagaac tcacaaccag atccagaggg 200  
 aacaggggaca tggccacctg ggacgaaaag gcagtcaccc gcagggccaa 250  
 ggttgctccc gctgagagga tgagcaagtt ctttaaggcac ttacaggtcg 300  
 tgggagacga ctaccatgcc tggaaacatca actacaagaa atggggagaat 350  
 gaaggaggagg aggaggagga ggagcagcca ccaccacac cagtctcagg 400  
 cgagggaagg agagctgcag cccctgacgt tgcccctgcc cctggcccgg 450  
 caccagggg cccccttgac ttcaggggga tgttgaggaa actgttcagc 500

toccacaggt ttcaggtcat catcatctgc ttggtgggtc tggatgcct 550  
 cctgggtgctt gctgagctca tcttggacct gaagatcatc cagcccagca 600  
 agaataacta tgctgccatg gtattccact acatgagcat caccatcttg 650  
 gtctttttta tgatggagat catctttaaa ttattgtct tccgcctgag 700  
 ttctttcacc acaagtttga gatcctggat gcccgctcgtg gtgggtgtct 750  
 cattcatcct ggacattgtc ctctgttcc aggagcacca gtttgaggct 800  
 ctgggcctgc tgattctgct cggctgtgg cgggtggccc ggatcatcaa 850  
 tgggattatc atctcagtta agacacgttc agaacggcaa ctcttaaggt 900  
 taaaacagat gaatgtacaa ttggccgccca agattcaaca cttgaggttc 950  
 agctgctctg agaagccct ggactgatga gtttgctgta tcaacctgta 1000  
 aggagaagct ctctccggat ggctatggga atgaagaat ccgacttcta 1050  
 ctctcacaca gccaccgtga aagtcttgga gtaaatgtg ctgtgtacag 1100  
 aagagagaga aggaagcagg ctggcatgtt cactgggctg gtgttacgac 1150  
 agagaacctg acagtcactg gccagttatc acttcagatt acaaatcaca 1200  
 cagagcatct gcctgttttc aatcacaa gaacaaaacc aaaatctata 1250  
 aagatattct gaaaatatga cagaatttga caaataaaag cataaacgtg 1300  
 taataaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1337

<210> 287  
 <211> 255  
 <212> PRT  
 <213> Homo sapiens

<400> 287  
 Met Ala Thr Trp Asp Glu Lys Ala Val Thr Arg Arg Ala Lys Val  
 1 5 10 15  
 Ala Pro Ala Glu Arg Met Ser Lys Phe Leu Arg His Phe Thr Val  
 20 25 30  
 Val Gly Asp Asp Tyr His Ala Trp Asn Ile Asn Tyr Lys Lys Trp  
 35 40 45  
 Glu Asn Glu Glu Glu Glu Glu Glu Glu Gln Pro Pro Pro Thr  
 50 55 60  
 Pro Val Ser Gly Glu Glu Gly Arg Ala Ala Pro Asp Val Ala  
 65 70 75  
 Pro Ala Pro Gly Pro Ala Pro Arg Ala Pro Leu Asp Phe Arg Gly  
 80 85 90  
 Met Leu Arg Lys Leu Phe Ser Ser His Arg Phe Gln Val Ile Ile  
 95 100 105  
 Ile Cys Leu Val Val Leu Asp Ala Leu Leu Val Leu Ala Glu Leu  
 110 115 120

Ile Leu Asp Leu Lys Ile Ile Gln Pro Asp Lys Asn Asn Tyr Ala  
125 130 135

Ala Met Val Phe His Tyr Met Ser Ile Thr Ile Leu Val Phe Phe  
140 145 150

Met Met Glu Ile Ile Phe Lys Leu Phe Val Phe Arg Leu Ser Ser  
155 160 165

Phe Thr Thr Ser Leu Arg Ser Trp Met Pro Val Val Val Val Val  
170 175 180

Ser Phe Ile Leu Asp Ile Val Leu Leu Phe Gln Glu His Gln Phe  
185 190 195

Glu Ala Leu Gly Leu Leu Ile Leu Leu Arg Leu Trp Arg Val Ala  
200 205 210

Arg Ile Ile Asn Gly Ile Ile Ile Ser Val Lys Thr Arg Ser Glu  
215 220 225

Arg Gln Leu Leu Arg Leu Lys Gln Met Asn Val Gln Leu Ala Ala  
230 235 240

Lys Ile Gln His Leu Glu Phe Ser Cys Ser Glu Lys Pro Leu Asp  
245 250 255

<210> 288

<211> 3334

<212> DNA

<213> Homo sapiens

<400> 288

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cccagaccga gttccagtac tttgagtcga aggggctccc tgcgagctg 150

aagtccattt tcaagctcag tgtcttcatc ccctcccagg aattctccac 200

ctaccgccag tggaagcaga aaattgtaca agctggagat aaggaccttg 250

atgggcagct agactttgaa gaattgtgcc attatctcca agatcatgag 300

aagaagctga ggctggtgtt taagattttg gacaaaaaga atgatggacg 350

cattgacgcg caggagatca tgcagtcctt gcgggacttg ggagtcaaga 400

tatctgaaca gcaggcagaa aaaattctca agagcatgga taaaaacggc 450

acgatgacca tcgactggaa cgagtggaga gactaccacc tcctccacc 500

ctgtgaaaac atccccgaga tcatcctcta ctggaagcat tccagatct 550

ttgatgtggg tgagaatcta acggtcccgg atgagttcac agtggaggag 600

aggcagacgg ggatgtggtg gagacacctg gtggcaggag gtggggcagg 650

ggccgtatcc agaacctgca cggccccctt ggacaggctc aaggtgtctca 700

tgcaggtcca tgcctccgc agcaacaaca tgggcatcgt tgggtggcttc 750

actcagatga ttcgagaagg agggggccagg tcaactctggc ggggcaatgg 800  
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atgagcagat caagcgcctt gttggtagt accaggagac tctgaggatt 900  
cacgagaggc ttgtggcagg gtccttgga ggggccatcg ccagagcag 950  
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gccagtact aggaatgctg gactgcgcca ggaggatcct ggccagagag 1050  
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ctggcctgtg gcaccatgtc cagtacctgt ggccagctgg ccagctaccc 1250  
cctggcccta gtcaggaccc ggatgcaggc gcaagcctct attgagggcg 1300  
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ctgatcctgg gccgcagcct ggggtgtgca gccatctcat tctgtgaatg 1550  
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cgcaggagg gtggggagag ctggcaggcc cagggcctgt cctgtgacc 1650  
ccagcagacc ctccgtgttg ttccagcgaa gaccacaggc attccttagg 1700  
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 <212> FRT  
 <213> Homo sapiens

<400> 289  
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 Lys Ser Ile Phe Lys Leu Ser Val Phe Ile Pro Ser Gln Glu Phe  
 35 40 45  
 Ser Thr Tyr Arg Gln Trp Lys Gln Lys Ile Val Gln Ala Gly Asp  
 50 55 60  
 Lys Asp Leu Asp Gly Gln Leu Asp Phe Glu Glu Phe Val His Tyr  
 65 70 75  
 Leu Gln Asp His Glu Lys Lys Leu Arg Leu Val Phe Lys Ile Leu  
 80 85 90

Asp	Lys	Lys	Asn	Asp	Gly	Arg	Ile	Asp	Ala	Gln	Glu	Ile	Met	Gln	95	100
Ser	Leu	Arg	Asp	Leu	Gly	Val	Lys	Ile	Ser	Glu	Gln	Gln	Ala	Glu	110	115
Lys	Ile	Leu	Lys	Ser	Met	Asp	Lys	Asn	Gly	Thr	Met	Thr	Ile	Asp	125	130
Trp	Asn	Glu	Trp	Arg	Asp	Tyr	His	Leu	Leu	His	Pro	Val	Glu	Asn	140	145
Ile	Pro	Glu	Ile	Ile	Leu	Tyr	Trp	Lys	His	Ser	Thr	Ile	Phe	Asp	155	160
Val	Gly	Glu	Asn	Leu	Thr	Val	Pro	Asp	Glu	Phe	Thr	Val	Glu	Glu	170	175
Arg	Gln	Thr	Gly	Met	Trp	Trp	Arg	His	Leu	Val	Ala	Gly	Gly	Gly	185	190
Ala	Gly	Ala	Val	Ser	Arg	Thr	Cys	Thr	Ala	Pro	Leu	Asp	Arg	Leu	200	205
Lys	Val	Leu	Met	Gln	Val	His	Ala	Ser	Arg	Ser	Asn	Asn	Met	Gly	215	220
Ile	Val	Gly	Gly	Phe	Thr	Gln	Met	Ile	Arg	Glu	Gly	Gly	Ala	Arg	230	235
Ser	Leu	Trp	Arg	Gly	Asn	Gly	Ile	Asn	Val	Leu	Lys	Ile	Ala	Pro	245	250
Glu	Ser	Ala	Ile	Lys	Phe	Met	Ala	Tyr	Glu	Gln	Ile	Lys	Arg	Leu	260	265
Val	Gly	Ser	Asp	Gln	Glu	Thr	Leu	Arg	Ile	His	Glu	Arg	Leu	Val	275	280
Ala	Gly	Ser	Leu	Ala	Gly	Ala	Ile	Ala	Gln	Ser	Ser	Ile	Tyr	Pro	290	295
Met	Glu	Val	Leu	Lys	Thr	Arg	Met	Ala	Leu	Arg	Lys	Thr	Gly	Gln	305	310
Tyr	Ser	Gly	Met	Leu	Asp	Cys	Ala	Arg	Arg	Ile	Leu	Ala	Arg	Glu	320	325
Gly	Val	Ala	Ala	Phe	Tyr	Lys	Gly	Tyr	Val	Pro	Asn	Met	Leu	Gly	335	340
Ile	Ile	Pro	Tyr	Ala	Gly	Ile	Asp	Leu	Ala	Val	Tyr	Glu	Thr	Leu	350	355
Lys	Asn	Ala	Trp	Leu	Gln	His	Tyr	Ala	Val	Asn	Ser	Ala	Asp	Pro	365	370
Gly	Val	Phe	Val	Leu	Leu	Ala	Cys	Gly	Thr	Met	Ser	Ser	Thr	Cys	380	385
Gly	Gln	Leu	Ala	Ser	Tyr	Pro	Leu	Ala	Leu	Val	Arg	Thr	Arg	Met	395	400









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<210> 293  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 293  
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 Ala Leu Trp Gly Gly Thr Gln Pro Leu Leu Lys Arg Ala Ser Ala  
 20 25 30  
 Gly Leu Gln Arg Val His Glu Pro Thr Trp Ala Gln Gln Leu Leu  
 35 40 45  
 Gln Glu Met Lys Thr Leu Phe Leu Asn Thr Glu Tyr Leu Met Pro  
 50 55 60  
 Phe Leu Leu Asn Gln Cys Gly Ser Leu Leu Tyr Tyr Leu Thr Leu  
 65 70 75  
 Ala Ser Thr Asp Leu Thr Leu Ala Val Pro Ile Cys Asn Ser Leu  
 80 85 90  
 Ala Ile Ile Phe Thr Leu Ile Val Gly Lys Ala Leu Gly Glu Asp  
 95 100 105  
 Ile Gly Gly Lys Arg Lys Leu Asp Tyr Cys Glu Cys Gly Thr Gln  
 110 115 120  
 Leu Cys Gly Ser Arg His Thr Cys Val Ser Ser Phe Pro Glu Pro  
 125 130 135  
 Ile Ser Pro Glu Trp Val Arg Thr Arg Pro Phe Pro Ile Leu Pro  
 140 145 150

Phe Pro Leu Gln Leu Phe Cys Phe Leu Val Ala Ile Arg Val Pro  
155 160 165

Phe Pro Trp Thr Val Trp Arg Lys Thr Glu Ala Gly Val Trp Asp  
170 175 180

<210> 294

<211> 1164

<212> DNA

<213> Homo sapiens

<400> 294

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<210> 295

<211> 237

<212> PRT

<213> Homo sapiens

<400> 295

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Ala Val Glu Ser Leu Ser Cys Val Gln Cys Asn Ser Trp Glu Lys  
20 25 30

Ser Cys Val Asn Ser Ile Ala Ser Glu Cys Pro Ser His Ala Asn  
35 40 45

Thr Ser Cys Ile Ser Ser Ser Ala Ser Ser Ser Leu Glu Thr Pro  
50 55 60

Val Arg Leu Tyr Gln Asn Met Phe Cys Ser Ala Glu Asn Cys Ser  
65 70 75

Glu Glu Thr His Ile Thr Ala Phe Thr Val His Val Ser Ala Glu  
80 85 90

Glu His Phe His Phe Val Ser Gln Cys Cys Gln Gly Lys Glu Cys  
95 100 105

Ser Asn Thr Ser Asp Ala Leu Asp Pro Pro Leu Lys Asn Val Ser  
110 115 120

Ser Asn Ala Glu Cys Pro Ala Cys Tyr Glu Ser Asn Gly Thr Ser  
125 130 135

Cys Arg Gly Lys Pro Trp Lys Cys Tyr Glu Glu Glu Gln Cys Val  
140 145 150

Phe Leu Val Ala Glu Leu Lys Asn Asp Ile Glu Ser Lys Ser Leu  
155 160 165

Val Leu Lys Gly Cys Ser Asn Val Ser Asn Ala Thr Cys Gln Phe  
170 175 180

Leu Ser Gly Glu Asn Lys Thr Leu Gly Gly Val Ile Phe Arg Lys  
185 190 195

Phe Glu Cys Ala Asn Val Asn Ser Leu Thr Pro Thr Ser Ala Pro  
200 205 210

Thr Thr Ser His Asn Val Gly Ser Lys Ala Ser Leu Tyr Leu Leu  
215 220 225

Ala Leu Ala Ser Leu Leu Arg Gly Leu Leu Pro  
230 235

<210> 296

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 296

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ccagcccat ggtcccgcc gccggcgcc tgetgtgggt cctgtgtgtg 150

aatctgggtc cccgggcggc gggggcccaa ggcctgacct agactccgac 200  
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<210> 297  
 <211> 341  
 <212> PRT  
 <213> Homo sapiens

<400> 297  
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 Leu Gly Pro Arg Ala Ala Gly Ala Gln Gly Leu Thr Gln Thr Pro  
 20 25 30  
 Thr Glu Met Gln Arg Val Ser Leu Arg Phe Gly Gly Pro Met Thr  
 35 40 45  
 Arg Ser Tyr Arg Ser Thr Ala Arg Thr Gly Leu Pro Arg Lys Thr  
 50 55 60  
 Arg Ile Ile Leu Glu Asp Glu Asn Asp Ala Met Ala Asp Ala Asp

65	70	75
Arg Leu Ala Gly Pro Ala Ala Ala Glu Leu Leu Ala Ala Thr Val	80	85
Ser Thr Gly Phe Ser Arg Ser Ser Ala Ile Asn Glu Glu Asp Gly	95	100
Ser Ser Glu Glu Gly Val Val Ile Asn Ala Gly Lys Asp Ser Thr	110	115
Ser Arg Glu Leu Pro Ser Ala Thr Pro Asn Thr Ala Gly Ser Ser	125	130
Ser Thr Arg Phe Ile Ala Asn Ser Gln Glu Pro Glu Ile Arg Leu	140	145
Thr Ser Ser Leu Pro Arg Ser Pro Gly Arg Ser Thr Glu Asp Leu	155	160
Pro Gly Ser Gln Ala Thr Leu Ser Gln Trp Ser Thr Pro Gly Ser	170	175
Thr Pro Ser Arg Trp Pro Ser Pro Ser Pro Thr Ala Met Pro Ser	185	190
Pro Glu Asp Leu Arg Leu Val Leu Met Pro Trp Gly Pro Trp His	200	205
Cys His Cys Lys Ser Gly Thr Met Ser Arg Ser Arg Ser Gly Lys	215	220
Leu His Gly Leu Ser Gly Arg Leu Arg Val Gly Ala Leu Ser Gln	230	235
Leu Arg Thr Glu His Lys Pro Cys Thr Tyr Gln Gln Cys Pro Cys	245	250
Asn Arg Leu Arg Glu Glu Cys Pro Leu Asp Thr Ser Leu Cys Thr	260	265
Asp Thr Asn Cys Ala Ser Gln Ser Thr Thr Ser Thr Arg Thr Thr	275	280
Thr Thr Pro Phe Pro Thr Ile His Leu Arg Ser Ser Pro Ser Leu	290	295
Pro Pro Ala Ser Pro Cys Pro Ala Leu Ala Phe Trp Lys Arg Val	305	310
Arg Ile Gly Leu Glu Asp Ile Trp Asn Ser Leu Ser Ser Val Phe	320	325
Thr Glu Met Gln Pro Ile Asp Arg Asn Gln Arg	335	340

<210> 298

<211> 2692

<212> DNA

<213> Homo sapiens

<400> 298

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Thr Val Gly Leu Tyr Leu Gln Glu Gly His Lys Val Pro Gln Phe  
 80 85 90  
 His Gly Lys Trp Pro Phe Ser Arg Phe Leu Phe Phe Gln Glu Pro  
 95 100 105  
 Ala Ser Ala Val Ala Ser Phe Leu Asn Gly Leu Ala Ser Leu Val  
 110 115 120  
 Met Leu Cys Arg Tyr Arg Thr Phe Val Pro Ala Ser Ser Pro Met  
 125 130 135  
 Tyr His Thr Cys Val Ala Phe Ala Trp Val Ser Leu Asn Ala Trp  
 140 145 150  
 Phe Trp Ser Thr Val Phe His Thr Arg Asp Thr Asp Leu Thr Glu  
 155 160 165  
 Lys Met Asp Tyr Phe Cys Ala Ser Thr Val Ile Leu His Ser Ile  
 170 175 180  
 Tyr Leu Cys Cys Val Arg Thr Val Gly Leu Gln His Pro Ala Val  
 185 190 195  
 Val Ser Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr Val His  
 200 205 210  
 Val Ser Tyr Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu  
 215 220 225  
 Val Ala Asn Val Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu  
 230 235 240  
 Ala Trp Cys Leu Trp Asn Gln Arg Arg Leu Pro His Val Arg Lys  
 245 250 255  
 Cys Val Val Val Val Leu Leu Leu Gln Gly Leu Ser Leu Leu Glu  
 260 265 270  
 Leu Leu Asp Phe Pro Pro Leu Phe Trp Val Leu Asp Ala His Ala  
 275 280 285  
 Ile Trp His Ile Ser Thr Ile Pro Val His Val Leu Phe Phe Ser  
 290 295 300  
 Phe Leu Glu Asp Asp Ser Leu Tyr Leu Leu Lys Glu Ser Glu Asp  
 305 310 315  
 Lys Phe Lys Leu Asp  
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<210> 300

<211> 1674

<212> DNA

<213> Homo sapiens

<400> 300

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cctcagtcac cagaacctga aggagtttgc cctgaccaac ccagagaaga 200  
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650  
aaaaaaaaaa aaaaaaaaaa aaaa 1674

<210> 301

<211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 301

Met	Ala	Pro	Gln	Ser	Leu	Pro	Ser	Ser	Arg	Met	Ala	Pro	Leu	Gly	
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			20						25					30	
Ser	His	Gln	Asn	Leu	Lys	Glu	Phe	Ala	Leu	Thr	Asn	Pro	Glu	Lys	
			35						40					45	
Ser	Ser	Thr	Lys	Glu	Thr	Glu	Arg	Lys	Glu	Thr	Lys	Ala	Glu	Glu	
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Glu	Leu	Asp	Ala	Glu	Val	Leu	Glu	Val	Phe	His	Pro	Thr	His	Glu	
			65						70					75	
Trp	Gln	Ala	Leu	Gln	Pro	Gly	Gln	Ala	Val	Pro	Ala	Gly	Ser	His	
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Val	Arg	Leu	Asn	Leu	Gln	Thr	Gly	Glu	Arg	Glu	Ala	Lys	Leu	Gln	
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Tyr	Glu	Asp	Lys	Phe	Arg	Asn	Asn	Leu	Lys	Gly	Lys	Arg	Leu	Asp	
			110						115					120	
Ile	Asn	Thr	Asn	Thr	Tyr	Thr	Ser	Gln	Asp	Leu	Lys	Ser	Ala	Leu	
			125						130					135	
Ala	Lys	Phe	Lys	Glu	Gly	Ala	Glu	Met	Glu	Ser	Ser	Lys	Glu	Asp	
			140						145					150	
Lys	Ala	Arg	Gln	Ala	Glu	Val	Lys	Arg	Leu	Phe	Arg	Pro	Ile	Glu	
			155						160					165	
Glu	Leu	Lys	Lys	Asp	Phe	Asp	Glu	Leu	Asn	Val	Val	Ile	Glu	Thr	
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Asp	Met	Gln	Ile	Met	Val	Arg	Leu	Ile	Asn	Lys	Phe	Asn	Ser	Ser	
			185						190					195	
Ser	Ser	Ser	Leu	Glu	Glu	Lys	Ile	Ala	Ala	Leu	Phe	Asp	Leu	Glu	
			200						205					210	
Tyr	Tyr	Val	His	Gln	Met	Asp	Asn	Ala	Gln	Asp	Leu	Leu	Ser	Phe	
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Gly	Gly	Leu	Gln	Val	Val	Ile	Asn	Gly	Leu	Asn	Ser	Thr	Glu	Pro	
			230						235					240	
Leu	Val	Lys	Glu	Tyr	Ala	Ala	Phe	Val	Leu	Gly	Ala	Ala	Phe	Ser	
			245						250					255	
Ser	Asn	Pro	Lys	Val	Gln	Val	Glu	Ala	Ile	Glu	Gly	Gly	Ala	Leu	
			260						265					270	
Gln	Lys	Leu	Leu	Val	Ile	Leu	Ala	Thr	Glu	Gln	Pro	Leu	Thr	Ala	
			275						280					285	
Lys	Lys	Lys	Val	Leu	Phe	Ala	Leu	Cys	Ser	Leu	Leu	Arg	His	Phe	

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Pro Tyr Ala Gln Arg Gln Phe Leu Lys	Leu Gly Gly Leu Gln Val	
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Leu Arg Thr Leu Val Gln Glu Lys Gly Thr	Glu Val Leu Ala Val	
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Arg Val Val Thr Leu Leu Tyr Asp Leu Val	Thr Glu Lys Met Phe	
335	340	345
Ala Glu Glu Glu Ala Glu Leu Thr Gln Glu	Met Ser Pro Glu Lys	
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Leu Gln Gln Tyr Arg Gln Val His Leu Leu	Pro Gly Leu Trp Glu	
365	370	375
Gln Gly Trp Cys Glu Ile Thr Ala His Leu	Leu Ala Leu Pro Glu	
380	385	390
His Asp Ala Arg Glu Lys Val Leu Gln Thr	Leu Gly Val Leu Leu	
395	400	405
Thr Thr Cys Arg Asp Arg Tyr Arg Gln Asp	Pro Gln Leu Gly Arg	
410	415	420
Thr Leu Ala Ser Leu Gln Ala Glu Tyr Gln	Val Leu Ala Ser Leu	
425	430	435
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<210> 302

<211> 2136

<212> DNA

<213> Homo sapiens

<400> 302

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 <211> 247  
 <212> PRT  
 <213> Homo sapiens

<400> 303

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Arg	Val	Ile	Ile	Leu	Val	Ala	Gly	Ala	Phe	Phe	Trp	Leu	Val	Ser	35	40	45	
Leu	Leu	Leu	Ala	Ser	Val	Val	Trp	Phe	Ile	Leu	Val	His	Val	Thr	50	55	60	
Asp	Arg	Ser	Asp	Ala	Arg	Leu	Gln	Tyr	Gly	Leu	Leu	Ile	Phe	Gly	65	70	75	
Ala	Ala	Val	Ser	Val	Leu	Leu	Gln	Glu	Val	Phe	Arg	Phe	Ala	Tyr	80	85	90	
Tyr	Lys	Leu	Leu	Lys	Lys	Ala	Asp	Glu	Gly	Leu	Ala	Ser	Leu	Ser	95	100	105	
Glu	Asp	Gly	Arg	Ser	Pro	Ile	Ser	Ile	Arg	Gln	Met	Ala	Tyr	Val	110	115	120	
Ser	Gly	Leu	Ser	Phe	Gly	Ile	Ile	Ser	Gly	Val	Phe	Ser	Val	Ile	125	130	135	
Asn	Ile	Leu	Ala	Asp	Ala	Leu	Gly	Pro	Gly	Val	Val	Gly	Ile	His	140	145	150	
Gly	Asp	Ser	Pro	Tyr	Tyr	Phe	Leu	Thr	Ser	Ala	Phe	Leu	Thr	Ala	155	160	165	
Ala	Ile	Ile	Leu	Leu	His	Thr	Phe	Trp	Gly	Val	Val	Phe	Phe	Asp	170	175	180	
Ala	Cys	Glu	Arg	Arg	Arg	Tyr	Trp	Ala	Leu	Gly	Leu	Val	Val	Gly	185	190	195	
Ser	His	Leu	Leu	Thr	Ser	Gly	Leu	Thr	Phe	Leu	Asn	Pro	Trp	Tyr	200	205	210	
Glu	Ala	Ser	Leu	Leu	Pro	Ile	Tyr	Ala	Val	Thr	Val	Ser	Met	Gly	215	220	225	
Leu	Trp	Ala	Phe	Ile	Thr	Ala	Gly	Gly	Ser	Leu	Arg	Ser	Ile	Gln	230	235	240	
Arg	Ser	Leu	Leu	Cys	Lys	Asp	245											

<210> 304  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> unsure  
 <222> 108, 123, 126, 154, 198, 206, 217  
 <223> unknown base

<400> 304  
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 aagatcaacc catttccatt ccgccagatg gcctatgttt ctgggtctctc 100  
 ccttcggnat catcagtggt gtnntntctg ttatcaatat ttgggctgat 150  
 gcanttgggc caggtgtggt tgggatccat ggagactcac cctattantt 200  
 cctganttca gcctttntga cagcagccat tatcctgctc 240

<210> 305  
 <211> 378  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 58, 94, 132, 186, 191, 220, 240, 248, 280, 311, 332  
 <223> unknown base

<400> 305  
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 ctgcttaaga aggcagatga ggggttagca tngctgagtg aggacggaag 150  
 atcacccatt tccatccgcc agatggccta tgtttntggt ntttctctcg 200  
 gtatcatcag tgggtttttn tctgttatca atattttggn tgatgcantt 250  
 gggccaggtg tggttgggat ccattggagan tcacctatt aattcctgaa 300  
 ttcagccctt ntgcagcag ccattatcct gntccatacc ttttggggag 350  
 ttgtgttttt tgatgcctgt gagaggag 378

<210> 306  
 <211> 655  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1, 22, 129, 133, 184  
 <223> unknown base

<400> 306  
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 gcgttgccac cccacgcgga ctccccagnt gngcgcctt tcccatttgc 150  
 ctgtcctggt caggccccca ccccccttcc cactngacca gccatggggg 200  
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 cacc 655

<210> 307  
 <211> 650  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 52, 89, 128  
 <223> unknown base

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 cgttgccacc ccacgaggac tcccagntg gcgcgccct cccatttgcc 150  
 tgtcctggtc agggcccccac ccccttccc acctgaccag ccatgggggc 200  
 tgcggtgttt ttggggtgc actttcgtcg cgttcgggcc cggccttcgc 250  
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 cggcctcctg atttttggg ctgctgtctc tgccttcta caggagggtgt 450  
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<210> 308  
 <211> 1570  
 <212> DNA  
 <213> Homo sapiens

<400> 308  
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 gccatggcta cagcaagacc ccctggatg tgggtgctct gtgctctgat 400  
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 ttccctaagg tctccagtg cttgaatct agcgtgctaa gtcagaaaag 1000  
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<210> 309

<211> 293  
 <212> PRT  
 <213> Homo sapiens

<400> 309

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			20						25					30
Asn	Asp	Val	Ser	Cys	Asp	His	Pro	Ser	Asn	Thr	Val	Pro	Ser	Gly
			35						40					45
Ser	Asn	Gln	Asp	Leu	Gly	Ala	Gly	Ala	Gly	Glu	Asp	Ala	Arg	Ser
			50						55					60
Asp	Asp	Ser	Ser	Ser	Arg	Ile	Ile	Asn	Gly	Ser	Asp	Cys	Asp	Met
			65						70					75
His	Thr	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Leu	Leu	Arg	Pro	Asn	Gln
				80					85					90
Leu	Tyr	Cys	Gly	Ala	Val	Leu	Val	His	Pro	Gln	Trp	Leu	Leu	Thr
			95						100					105
Ala	Ala	His	Cys	Arg	Lys	Lys	Val	Phe	Arg	Val	Arg	Leu	Gly	His
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Tyr	Ser	Leu	Ser	Pro	Val	Tyr	Glu	Ser	Gly	Gln	Gln	Met	Phe	Gln
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Gly	Val	Lys	Ser	Ile	Pro	His	Pro	Gly	Tyr	Ser	His	Pro	Gly	His
				140					145					150
Ser	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asn	Arg	Arg	Ile	Arg	Pro
				155					160					165
Thr	Lys	Asp	Val	Arg	Pro	Ile	Asn	Val	Ser	Ser	His	Cys	Pro	Ser
				170					175					180
Ala	Gly	Thr	Lys	Cys	Leu	Val	Ser	Gly	Trp	Gly	Thr	Thr	Lys	Ser
				185					190					195
Pro	Gln	Val	His	Phe	Pro	Lys	Val	Leu	Gln	Cys	Leu	Asn	Ile	Ser
				200					205					210
Val	Leu	Ser	Gln	Lys	Arg	Cys	Glu	Asp	Ala	Tyr	Pro	Arg	Gln	Ile
				215					220					225
Asp	Asp	Thr	Met	Phe	Cys	Ala	Gly	Asp	Lys	Ala	Gly	Arg	Asp	Ser
				230					235					240
Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Val	Val	Cys	Asn	Gly	Ser	Leu
				245					250					255
Gln	Gly	Leu	Val	Ser	Trp	Gly	Asp	Tyr	Pro	Cys	Ala	Arg	Pro	Asn
				260					265					270
Arg	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys	Phe	Thr	Lys	Trp	Ile
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Gln	Glu	Thr	Ile	Gln	Ala	Asn	Ser							

<210> 310  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 310  
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<210> 311  
 <211> 24  
 <212> DNA  
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<220>  
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<400> 311  
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<210> 312  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

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<210> 313  
 <211> 3010  
 <212> DNA  
 <213> Homo sapiens

<400> 313  
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<210> 314  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 314  
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 Glu Asp Arg Pro Arg Asp Lys Pro Gln Arg Pro Ser Cys Gly Tyr  
 20 25 30  
 Val Leu Cys Thr Val Leu Leu Ala Leu Ala Val Leu Leu Ala Val  
 35 40 45  
 Ala Val Thr Gly Ala Val Leu Phe Leu Asn His Ala His Ala Pro  
 50 55 60  
 Gly Thr Ala Pro Pro Pro Val Val Ser Thr Gly Ala Ala Ser Ala  
 65 70 75  
 Asn Ser Ala Leu Val Thr Val Glu Arg Ala Asp Ser Ser His Leu  
 80 85 90  
 Ser Ile Leu Ile Asp Pro Arg Cys Pro Asp Leu Thr Asp Ser Phe  
 95 100 105

Ala Arg Leu Glu Ser Ala Gln Ala Ser Val Leu Gln Ala Leu Thr	110	115	120
Glu His Gln Ala Gln Pro Arg Leu Val Gly Asp Gln Glu Gln Glu	125	130	135
Leu Leu Asp Thr Leu Ala Asp Gln Leu Pro Arg Leu Leu Ala Arg	140	145	150
Ala Ser Glu Leu Gln Thr Glu Cys Met Gly Leu Arg Lys Gly His	155	160	165
Gly Thr Leu Gly Gln Gly Leu Ser Ala Leu Gln Ser Glu Gln Gly	170	175	180
Arg Leu Ile Gln Leu Leu Ser Glu Ser Gln Gly His Met Ala His	185	190	195
Leu Val Asn Ser Val Ser Asp Ile Leu Asp Ala Leu Gln Arg Asp	200	205	210
Arg Gly Leu Gly Arg Pro Arg Asn Lys Ala Asp Leu Gln Arg Ala	215	220	225
Pro Ala Arg Gly Thr Arg Pro Arg Gly Cys Ala Thr Gly Ser Arg	230	235	240
Pro Arg Asp Cys Leu Asp Val Leu Leu Ser Gly Gln Gln Asp Asp	245	250	255
Gly Val Tyr Ser Val Phe Pro Thr His Tyr Pro Ala Gly Phe Gln	260	265	270
Val Tyr Cys Asp Met Arg Thr Asp Gly Gly Gly Trp Thr Val Phe	275	280	285
Gln Arg Arg Glu Asp Gly Ser Val Asn Phe Phe Arg Gly Trp Asp	290	295	300
Ala Tyr Arg Asp Gly Phe Gly Arg Leu Thr Gly Glu His Trp Leu	305	310	315
Gly Leu Lys Arg Ile His Ala Leu Thr Thr Gln Ala Ala Tyr Glu	320	325	330
Leu His Val Asp Leu Glu Asp Phe Glu Asn Gly Thr Ala Tyr Ala	335	340	345
Arg Tyr Gly Ser Phe Gly Val Gly Leu Phe Ser Val Asp Pro Glu	350	355	360
Glu Asp Gly Tyr Pro Leu Thr Val Ala Asp Tyr Ser Gly Thr Ala	365	370	375
Gly Asp Ser Leu Leu Lys His Ser Gly Met Arg Phe Thr Thr Lys	380	385	390
Asp Arg Asp Ser Asp His Ser Glu Asn Asn Cys Ala Ala Phe Tyr	395	400	405
Arg Gly Ala Trp Trp Tyr Arg Asn Cys His Thr Ser Asn Leu Asn	410	415	420

Gly Gln Tyr Leu Arg Gly Ala His Ala Ser Tyr Ala Asp Gly Val  
 425 430 435  
 Glu Trp Ser Ser Trp Thr Gly Trp Gln Tyr Ser Leu Lys Phe Ser  
 440 445 450  
 Glu Met Lys Ile Arg Pro Val Arg Glu Asp Arg  
 455 460

<210> 315

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 315

cacacgtcca acctcaatgg gcag 24

<210> 316

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 316

gaccagcagg gccaaggaca agg 23

<210> 317

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 317

gttctctgag atgaagatcc ggcgggtccg ggagtaccgc ttag 44

<210> 318

<211> 1841

<212> DNA

<213> Homo sapiens

<400> 318

gcagtcagag acttcccctg ccctcgtctg ggaaagaaca ttaggaatgc 50  
 ctttttagtgc cttgtctcct gaactagctc acagtagccc ggcggcccag 100  
 ggcaatccga ccacatttca ctctcaccgc ttaggaatc catagtcagg 150  
 ccaagtacag cagcacgagg gacatgctgg atgatgatgg ggacaccacc 200  
 atgagcctgc attctcaagc ctctgccaca actcggcatc cagagccccg 250  
 gcgcacagag cacagggtct cctcttcaac gtggcgacca gtggccctga 300  
 ccctgctgac tttgtgcttg gtgctgctga tagggctggc agccctgggg 350  
 cttttgtttt ttcagtacta ccagctctcc aatactggtc aagacaccat 400

ttctcaaag gaagaaagat taggaaatag gtccaagag ttgcaatctc 450  
 ttcaagtcca gaatataaag cttgcaggaa gtctgcagca tgtggctgaa 500  
 aaactctgtc gtgagctgta taacaaagct ggagcacaca ggtgcagccc 550  
 ttgtacagaa caatggaaat ggcatggaga caattgtac cagttctata 600  
 aagacagcaa aagttgggag gactgtaaat atttctgctc tagtgaaac 650  
 tctaccatgc tgaagataaa caaacaagaa gacctggaat ttgcgcgctc 700  
 toagagctac tctgagtttt tctactetta ttggacaggg cttttgcgcc 750  
 ctgacagtggt caaggcctgg ctgtggatgg atggaacccc ttctacttct 800  
 gaactgttcc atattataat agatgtcacc agcccaagaa gcagagactg 850  
 tgtggccatc ctcaatggga tgatcttctc aaaggactgc aaagaattga 900  
 agcgttgtgt ctgtgagaga agggcaggaa tggtagaacc agagagctc 950  
 catgtcccc ctgaacatt aggcgaaggt gactgattcg ccctctgcaa 1000  
 ctacaaatag cagagtgtgc caggcgggtc caaagcaagg gctagttgag 1050  
 acattgggaa atggaacata atcaggaaag actatctctc tgactagtac 1100  
 aaaatggggt tctgtgtttc ctgttcagga tcaccagcat ttctgagctt 1150  
 gggtttatgc acgtatttaa cagtcacaag aagtcttatt tacatgccac 1200  
 caaccaacct cagaaaccca taatgtcatc tgccttcttg gcttagagat 1250  
 aacttttagc tctctttctt ctcaatgtct aatatcact cctgttttc 1300  
 atgtcttct tacacttggg ggaataagaa actttttgaa gtagaggaaa 1350  
 tacattgagg taacatcctt ttctctgaca gtcaagtagt ccatcagaaa 1400  
 ttggcagta cttcccagat tgtaccagca aatacacaag gaattctttt 1450  
 tgtttgttc agttcatact agtcccttcc caatccatca gtaaagacct 1500  
 catctgcctt gtccatgcog ttcccaaca gggatgtcac ttgatagag 1550  
 aatctcaaat ctcaatgcct tataagcatt ccttctgtg tccattaaga 1600  
 ctctgataat tgtctccct ccataggaat ttctccagg aaagaaatat 1650  
 atccccatct ccgtttcata tcagaactac cgtcccgat attcccttca 1700  
 gagagattaa agaccagaaa aaagtggacc tcttcatctg cacctgtaat 1750  
 agtttcaggt cctattttct tccattgacc catatttata cctttcaggt 1800  
 actgaagatt taataataat aaatgtaaat actgtgaaa a 1841

<210> 319  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens



<400> 319

Met	Gln	Ala	Lys	Tyr	Ser	Ser	Thr	Arg	Asp	Met	Leu	Asp	Asp	Asp
1				5					10					15
Gly	Asp	Thr	Thr	Met	Ser	Ser	Leu	His	Ser	Gln	Ala	Ser	Ala	Thr
				20						25				30
Arg	His	Pro	Glu	Pro	Arg	Arg	Thr	Glu	His	Arg	Ala	Pro	Ser	Ser
				35					40					45
Thr	Trp	Arg	Pro	Val	Ala	Leu	Thr	Leu	Leu	Thr	Leu	Cys	Leu	Val
				50					55					60
Leu	Leu	Ile	Gly	Leu	Ala	Ala	Leu	Gly	Leu	Leu	Phe	Phe	Gln	Tyr
				65					70					75
Tyr	Gln	Leu	Ser	Asn	Thr	Gly	Gln	Asp	Thr	Ile	Ser	Gln	Met	Glu
				80					85					90
Glu	Arg	Leu	Gly	Asn	Thr	Ser	Gln	Glu	Leu	Gln	Ser	Leu	Gln	Val
				95					100					105
Gln	Asn	Ile	Lys	Leu	Ala	Gly	Ser	Leu	Gln	His	Val	Ala	Glu	Lys
				110					115					120
Leu	Cys	Arg	Glu	Leu	Tyr	Asn	Lys	Ala	Gly	Ala	His	Arg	Cys	Ser
				125					130					135
Pro	Cys	Thr	Glu	Gln	Trp	Lys	Trp	His	Gly	Asp	Asn	Cys	Tyr	Gln
				140					145					150
Phe	Tyr	Lys	Asp	Ser	Lys	Ser	Trp	Glu	Asp	Cys	Lys	Tyr	Phe	Cys
				155					160					165
Leu	Ser	Glu	Asn	Ser	Thr	Met	Leu	Lys	Ile	Asn	Lys	Gln	Glu	Asp
				170					175					180
Leu	Glu	Phe	Ala	Ala	Ser	Gln	Ser	Tyr	Ser	Glu	Phe	Phe	Tyr	Ser
				185					190					195
Tyr	Trp	Thr	Gly	Leu	Leu	Arg	Pro	Asp	Ser	Gly	Lys	Ala	Trp	Leu
				200					205					210
Trp	Met	Asp	Gly	Thr	Pro	Phe	Thr	Ser	Glu	Leu	Phe	His	Ile	Ile
				215					220					225
Ile	Asp	Val	Thr	Ser	Pro	Arg	Ser	Arg	Asp	Cys	Val	Ala	Ile	Leu
				230					235					240
Asn	Gly	Met	Ile	Phe	Ser	Lys	Asp	Cys	Lys	Glu	Leu	Lys	Arg	Cys
				245					250					255
Val	Cys	Glu	Arg	Arg	Ala	Gly	Met	Val	Lys	Pro	Glu	Ser	Leu	His
				260					265					270
Val	Pro	Pro	Glu	Thr	Leu	Gly	Glu	Gly	Asp					
				275					280					

<210> 320

<211> 468

<212> DNA

<213> Homo sapiens

<220>  
 <221> unsure  
 <222> 59, 95, 149, 331, 364, 438, 446  
 <223> unknown base

<400> 320  
 aattttcacc gctgtaggaa tocagatgca ggccaagtac agcagcacga 50  
 gggacatgnt ggtatgatgat gggacaccac catgagcctg cattntcaag 100  
 cttttgccac aattggcat ccagagcccc ggcgcacaga gcacagggnt 150  
 cctttttcaa cgtggcgacc agtggcctg accctgctga ctttgtgctt 200  
 ggtgctgctg atagggctgg cagccctggg gcttttgttt ttocagtact 250  
 accagctctc caatactggt caagacacca tttctcaaat ggaagaaaga 300  
 tttagaaata cgtccaaga gttgcaattt nttcaagtcc agaataataa 350  
 gcttcgagga agtntgcagc atgtggctga aaaactctgt cgtgagctgt 400  
 ataacaagc tggaggaact ttgaaggagg gcaaagtntc ctcantact 450  
 atacacacac cacttccc 468

<210> 321  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 321  
 atgcaggcca agtacagcag cac 23

<210> 322  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 322  
 catgctgacg acttctgca agc 23

<210> 323  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 323  
 ccacacagtc tctgcttctt ggg 23

<210> 324  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 324  
atgctggatg atgatgggga caccaccatg agcctgcatt 40

<210> 325  
<211> 2988  
<212> DNA  
<213> Homo sapiens

<400> 325  
gccgagcgca agaaccctgc gcagcccaga gcagctgctg gaggggaatc 50  
gaggcgcggc tcgggggatt cggctcgggc cgctgggtct gctctgcggg 100  
gagggagcgg gcccgcccg ggggcccag cctccggat cggcccccctc 150  
cccggtcccc ccccctcgga gactcctctg gctgctctgg gggttcgccg 200  
gggcccggga ccccggtcc gggcgccatg cgggcacgc tgcctgctgctc 250  
ggtgctgcgg cccgcagggc ccgtggccgt gggcatctcc ctgggcttca 300  
ccctgagcct gctcagcgtc acctgggtgg aggagccgtg cggcccaggc 350  
ccgcccacac ctgggagactc tgagctgcgc ccgcgcggca acaccaacgc 400  
ggcgcgccgg cccaactcgg tgcagcccg agcggagcgc gagaagcccg 450  
gggcccgcga aggcgcggg gagaattggg agccgcgcgt cttgccctac 500  
cacctgcac agcccgcca gccgcgcaa aaggccgtca ggaccgcta 550  
catcagcacg gagctgggca tcaggcagag gctgctggtg gcggtgctga 600  
cctctcagac cagctgccc acgctgggcg tggccgtgaa ccgcacgctg 650  
gggcaccggc tggagcgtgt ggtgttctg acgggcgcac ggggcccgcg 700  
ggccccacct ggcatggcag tggtagcgtt gggcgaggag cgaccattg 750  
gacacctgca cctggcgctg cgccacctgc tggagcagca cggcgacgac 800  
tttgactggt tcttctggt gcctgacacc acctacacgg aggcgcacgg 850  
cctggcacgc ctaactggcc acctcagcct ggctccgcc gcccaactgt 900  
acctgggcgg gccccaggac ttcacggcg gagagccac cccggccgcg 950  
tactgccacg gaggcttttg ggtgctgctg tcgcgcatgc tgcctgaaca 1000  
actgcgcccc cacctggaag gctgccgcaa cgacatogtc agtgcgcgcc 1050  
ctgacgagtg gctgggtcgc tgcattctcg atgccaccgg ggtgggctgc 1100  
actggtgacc acgagggggg gcaactatag catctggagc tgagccctgg 1150  
ggagccagtg caggaggggg accctcattt ccgaagtgc ctgacagccc 1200  
accctgtgcg tgacctgtg cacatgtacc agctgcacaa agcttctgcc 1250  
cgagctgaac tggaacgcac gtaccaggag atccaggagt tacagtggga 1300



gagctgagga gggggcatct cccaacttct cccttttggg cctgcccga 2950  
 gtcctcctgcc tttataaac tggccaagtg tggaaaaa 2988

<210> 326  
 <211> 775  
 <212> PRT  
 <213> Homo sapiens

<400> 326  
 Met Arg Ala Ser Leu Leu Leu Ser Val Leu Arg Pro Ala Gly Pro  
 1 5 10 15  
 Val Ala Val Gly Ile Ser Leu Gly Phe Thr Leu Ser Leu Leu Ser  
 20 25 30  
 Val Thr Trp Val Glu Glu Pro Cys Gly Pro Gly Pro Pro Gln Pro  
 35 40 45  
 Gly Asp Ser Glu Leu Pro Pro Arg Gly Asn Thr Asn Ala Ala Arg  
 50 55 60  
 Arg Pro Asn Ser Val Gln Pro Gly Ala Glu Arg Glu Lys Pro Gly  
 65 70 75  
 Ala Gly Glu Gly Ala Gly Glu Asn Trp Glu Pro Arg Val Leu Pro  
 80 85 90  
 Tyr His Pro Ala Gln Pro Gly Gln Ala Ala Lys Lys Ala Val Arg  
 95 100 105  
 Thr Arg Tyr Ile Ser Thr Glu Leu Gly Ile Arg Gln Arg Leu Leu  
 110 115 120  
 Val Ala Val Leu Thr Ser Gln Thr Thr Leu Pro Thr Leu Gly Val  
 125 130 135  
 Ala Val Asn Arg Thr Leu Gly His Arg Leu Glu Arg Val Val Phe  
 140 145 150  
 Leu Thr Gly Ala Arg Gly Arg Arg Ala Pro Gly Met Ala Val  
 155 160 165  
 Val Thr Leu Gly Glu Glu Arg Pro Ile Gly His Leu His Leu Ala  
 170 175 180  
 Leu Arg His Leu Leu Glu Gln His Gly Asp Asp Phe Asp Trp Phe  
 185 190 195  
 Phe Leu Val Pro Asp Thr Thr Tyr Thr Glu Ala His Gly Leu Ala  
 200 205 210  
 Arg Leu Thr Gly His Leu Ser Leu Ala Ser Ala Ala His Leu Tyr  
 215 220 225  
 Leu Gly Arg Pro Gln Asp Phe Ile Gly Gly Glu Pro Thr Pro Gly  
 230 235 240  
 Arg Tyr Cys His Gly Gly Phe Gly Val Leu Leu Ser Arg Met Leu  
 245 250 255  
 Leu Gln Gln Leu Arg Pro His Leu Glu Gly Cys Arg Asn Asp Ile  
 260 265 270

Val Ser Ala Arg	Pro Asp Glu Trp Leu Gly Arg Cys Ile Leu Asp	275	280	285
Ala Thr Gly Val	Gly Cys Thr Gly Asp His Glu Gly Val His Tyr	290	295	300
Ser His Leu Glu	Leu Ser Pro Gly Glu Pro Val Gln Glu Gly Asp	305	310	315
Pro His Phe Arg	Ser Ala Leu Thr Ala His Pro Val Arg Asp Pro	320	325	330
Val His Met Tyr	Gln Leu His Lys Ala Phe Ala Arg Ala Glu Leu	335	340	345
Glu Arg Thr Tyr	Gln Glu Ile Gln Glu Leu Gln Trp Glu Ile Gln	350	355	360
Asn Thr Ser His	Leu Ala Val Asp Gly Asp Arg Ala Ala Ala Trp	365	370	375
Pro Val Gly Ile	Pro Ala Pro Ser Arg Pro Ala Ser Arg Phe Glu	380	385	390
Val Leu Arg Trp	Asp Tyr Phe Thr Glu Gln His Ala Phe Ser Cys	395	400	405
Ala Asp Gly Ser	Pro Arg Cys Pro Leu Arg Gly Ala Asp Arg Ala	410	415	420
Asp Val Ala Asp	Val Leu Gly Thr Ala Leu Glu Glu Leu Asn Arg	425	430	435
Arg Tyr His Pro	Ala Leu Arg Leu Gln Lys Gln Gln Leu Val Asn	440	445	450
Gly Tyr Arg Arg	Phe Asp Pro Ala Arg Gly Met Glu Tyr Thr Leu	455	460	465
Asp Leu Gln Leu	Glu Ala Leu Thr Pro Gln Gly Gly Arg Arg Pro	470	475	480
Leu Thr Arg Arg	Val Gln Leu Leu Arg Pro Leu Ser Arg Val Glu	485	490	495
Ile Leu Pro Val	Pro Tyr Val Thr Glu Ala Ser Arg Leu Thr Val	500	505	510
Leu Leu Pro Leu	Ala Ala Ala Glu Arg Asp Leu Ala Pro Gly Phe	515	520	525
Leu Glu Ala Phe	Ala Thr Ala Ala Leu Glu Pro Gly Asp Ala Ala	530	535	540
Ala Ala Leu Thr	Leu Leu Leu Tyr Glu Pro Arg Gln Ala Gln	545	550	555
Arg Val Ala His	Ala Asp Val Phe Ala Pro Val Lys Ala His Val	560	565	570
Ala Glu Leu Glu	Arg Arg Phe Pro Gly Ala Arg Val Pro Trp Leu	575	580	585

Ser Val Gln Thr Ala Ala Pro Ser Pro Leu Arg Leu Met Asp Leu  
590 595 600

Leu Ser Lys Lys His Pro Leu Asp Thr Leu Phe Leu Leu Ala Gly  
605 610 615

Pro Asp Thr Val Leu Thr Pro Asp Phe Leu Asn Arg Cys Arg Met  
620 625 630

His Ala Ile Ser Gly Trp Gln Ala Phe Phe Pro Met His Phe Gln  
635 640 645

Ala Phe His Pro Gly Val Ala Pro Pro Gln Gly Pro Gly Pro Pro  
650 655 660

Glu Leu Gly Arg Asp Thr Gly Arg Phe Asp Arg Gln Ala Ala Ser  
665 670 675

Glu Ala Cys Phe Tyr Asn Ser Asp Tyr Val Ala Ala Arg Gly Arg  
680 685 690

Leu Ala Ala Ala Ser Glu Gln Glu Glu Leu Leu Glu Ser Leu  
695 700 705

Asp Val Tyr Glu Leu Phe Leu His Phe Ser Ser Leu His Val Leu  
710 715 720

Arg Ala Val Glu Pro Ala Leu Leu Gln Arg Tyr Arg Ala Gln Thr  
725 730 735

Cys Ser Ala Arg Leu Ser Glu Asp Leu Tyr His Arg Cys Leu Gln  
740 745 750

Ser Val Leu Glu Gly Leu Gly Ser Arg Thr Gln Leu Ala Met Leu  
755 760 765

Leu Phe Glu Gln Glu Gln Gly Asn Ser Thr  
770 775

<210> 327  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 327  
tggaaggctg cgcgaacgac aatc 24

<210> 328  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 328  
ctgatgtggc cgatgttctg 20

<210> 329  
<211> 20

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 329  
 atggctcagt gtgcagacag 20  
  
 <210> 330  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 330  
 gcatgctgct ccgtgaagta gtcc 24  
  
 <210> 331  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 331  
 atgcatggga aagaaggcct gcc 24  
  
 <210> 332  
 <211> 47  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 332  
 tgcactggtg accacgaggg ggtgcactat agccatctgg agctgag 47  
  
 <210> 333  
 <211> 1095  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 333  
 gctctggccg gccccggcga ttggtcaccg cccgctaggg gacagccctg 50  
 gcctcctctg attggcaagc gctggccacc tccccacaco ccttgccaac 100  
 gctcccctag tggagaaaag gagtagctat tagccaatto ggcaggggccc 150  
 gctttttaga agcttgattt cctttgaaga tgaagacta gcggaagctc 200  
 tgcctctttc ccagtgggc gagggaaactc ggggcgattg gctgggaact 250  
 gtatccaccc aaatgtcacc gatttcttcc tatgcaggaa atgacgagac 300  
 ccatcaataa gaaattttctc agcctggccg aaaatggttg gccccacgaa 350  
 gccacgacaa ctggaggcaa agagggttgc tcaacgcccc gcctcattgg 400



aaaaccaa at cagatctggg acctatatag cgtggcggag gcggggcgat 450  
 gattgtcgcg ctgcacacca ctgcagctgc gcacagtcgc atttctttcc 500  
 ccgccccgtg gacctgcag caccatctgt catggcgctt gggtctgttg 550  
 gtttgagcgc tcgcgtctt ttggcggcag cggcgacgcg agggctccc 600  
 gccgcccgcg tccgctggga atctagcttc tccaggactg tggctgcccc 650  
 gtccgctgtg gcgggaaagc ggcgccca accgaccaca ccgtggcaag 700  
 aggaccocaga acccgaggac gaaaacttgt atgagaagaa ccagactcc 750  
 catggttatg acaaggaccc cgttttggac gtctggaaca tgcgacttgt 800  
 cttcttcttt ggctctcca tcactctggt ccttggcagc accttctgtg 850  
 cctatctgcc tgactacagg atgaaagagt ggtccgcgcg cgaagctgag 900  
 aggtctgtga aataccgaga ggccaatggc ctcccatca tggaatcaa 950  
 ctgcttcgac ccagcaaga tccagctgcc agaggatgag tgaccagttg 1000  
 ctaagtgggg ctcaagaagc accgccttcc ccacccctg cctgccattc 1050  
 tgacctcttc tcagagcacc taattaaagg ggtgaaagt ctgaa 1095

<210> 334  
 <211> 153  
 <212> PRT  
 <213> Homo sapiens

<400> 334  
 Met Ala Ala Gly Leu Phe Gly Leu Ser Ala Arg Arg Leu Leu Ala  
 1 5 10 15  
 Ala Ala Ala Thr Arg Gly Leu Pro Ala Ala Arg Val Arg Trp Glu  
 20 25 30  
 Ser Ser Phe Ser Arg Thr Val Val Ala Pro Ser Ala Val Ala Gly  
 35 40 45  
 Lys Arg Pro Pro Glu Pro Thr Thr Pro Trp Gln Glu Asp Pro Glu  
 50 55 60  
 Pro Glu Asp Glu Asn Leu Tyr Glu Lys Asn Pro Asp Ser His Gly  
 65 70 75  
 Tyr Asp Lys Asp Pro Val Leu Asp Val Trp Asn Met Arg Leu Val  
 80 85 90  
 Phe Phe Phe Gly Val Ser Ile Ile Leu Val Leu Gly Ser Thr Phe  
 95 100 105  
 Val Ala Tyr Leu Pro Asp Tyr Arg Met Lys Glu Trp Ser Arg Arg  
 110 115 120  
 Glu Ala Glu Arg Leu Val Lys Tyr Arg Glu Ala Asn Gly Leu Pro  
 125 130 135  
 Ile Met Glu Ser Asn Cys Phe Asp Pro Ser Lys Ile Gln Leu Pro  
 140 145 150

Glu Asp Glu

<210> 335  
 <211> 442  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 335  
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 cgacgcgagg gctcccggcc gccccgcgtcc gctgggaatc tagctttctcc 100  
 aggactgttg tcgccccgtc cgctgtggcg ggaaagcggc cccagaacc 150  
 gaccacaccg tggcaagagg acccagaacc cgaggacgaa aacttgtatg 200  
 agaagaacc agactcccat ggttatgaca aggaccccg tttggaagtc 250  
 tggaaatgac gacttgtctt ctctctttggc gtctccatca tcctgggtct 300  
 tggcagcacc tttgtggcct atctgcctga ctacaggatg aaagagtggg 350  
 ccgcgccga agctgagagg cttgtgaaat accgagaggc caatggcctt 400  
 cccatcatgg aatccaactg cttcgacccc agcaagatcc ag 442  
  
 <210> 336  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 336  
 ctgagaccct gcagcaccat ctg 23  
  
 <210> 337  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 337  
 ggtgcttctt gagccccact tagc 24  
  
 <210> 338  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 338  
 aatctagct ctccaggact gtggtgcgcc cgtcgcgtgt 40  
  
 <210> 339  
 <211> 2162  
 <212> DNA

<213> Homo sapiens

<400> 339

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tcacacccc gctgccttcc ggggaacgtag ccgccacatt ccagtccgc 150  
acgcgctggg attcggagct tcagcgggaa ggagtgtccc attacaggct 200  
ctttcccaaa gccctggggc agctgatctc caagtattct ctacgggagc 250  
tgcaactgtc attcacacaa ggcttttggg ggaccgcata ctgggggcca 300  
cccttctgtc aggccccatc aggtgcagag ctgtgggtct ggttccaaga 350  
cactgtcact gatgtggata aatcttggaa ggagctcagt aatgtcctct 400  
cagggatctt ctgcgcctct ctcaacttca tcgactccac caacacagtc 450  
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ggccacctct atattgaggt gctcaataag caaaagtggt cgggtggctg 2000  
tgtattggac agcacagaaa aagatttcca tcaccacaga aaggctggct 2050  
ggcagcactg gccaaagtga tgggggtgtg tacacagtgt atgtcactgt 2100  
gtagtggatg gagtttactg tttgtggaat aaaaacggct gtttccgtgg 2150  
aaaaaaaa aa 2162

<210> 340  
<211> 574  
<212> PRT  
<213> Homo sapiens

<400> 340  
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1 5 10 15  
Trp Cys Leu Ala Glu Pro Pro Arg Asp Ser Leu Arg Glu Glu Leu  
20 25 30  
Val Ile Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe Gln  
35 40 45  
Phe Arg Thr Arg Trp Asp Ser Glu Leu Gln Arg Glu Gly Val Ser  
50 55 60  
His Tyr Arg Leu Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys  
65 70 75  
Tyr Ser Leu Arg Glu Leu His Leu Ser Phe Thr Gln Gly Phe Trp  
80 85 90  
Arg Thr Arg Tyr Trp Gly Pro Pro Phe Leu Gln Ala Pro Ser Lys  
95 100 105  
Ala Glu Leu Trp Val Trp Phe Gln Asp Thr Val Thr Asp Val Asp  
110 115 120  
Lys Ser Trp Lys Glu Leu Ser Asn Val Leu Ser Gly Ile Phe Cys  
125 130 135  
Ala Ser Leu Asn Phe Ile Asp Ser Thr Asn Thr Val Thr Pro Thr  
140 145 150

Ala	Ser	Phe	Lys	Pro	Leu	Gly	Leu	Ala	Asn	Asp	Thr	Asp	His	Tyr
				155					160					165
Phe	Leu	Arg	Tyr	Ala	Val	Leu	Pro	Arg	Glu	Val	Val	Cys	Thr	Glu
				170					175					180
Asn	Leu	Thr	Pro	Trp	Lys	Lys	Leu	Leu	Pro	Cys	Ser	Ser	Lys	Ala
				185					190					195
Gly	Leu	Ser	Val	Leu	Leu	Lys	Ala	Asp	Arg	Leu	Phe	His	Thr	Ser
				200					205					210
Tyr	His	Ser	Gln	Ala	Val	His	Ile	Arg	Pro	Val	Cys	Arg	Asn	Ala
				215					220					225
Arg	Cys	Thr	Ser	Ile	Ser	Trp	Glu	Leu	Arg	Gln	Thr	Leu	Ser	Val
				230					235					240
Val	Phe	Asp	Ala	Phe	Ile	Thr	Gly	Gln	Gly	Lys	Lys	Asp	Trp	Ser
				245					250					255
Leu	Phe	Arg	Met	Phe	Ser	Arg	Thr	Leu	Thr	Glu	Pro	Cys	Pro	Leu
				260					265					270
Ala	Ser	Glu	Ser	Arg	Val	Tyr	Val	Asp	Ile	Thr	Thr	Tyr	Asn	Gln
				275					280					285
Asp	Asn	Glu	Thr	Leu	Glu	Val	His	Pro	Pro	Pro	Thr	Thr	Thr	Tyr
				290					295					300
Gln	Asp	Val	Ile	Leu	Gly	Thr	Arg	Lys	Thr	Tyr	Ala	Ile	Tyr	Asp
				305					310					315
Leu	Leu	Asp	Thr	Ala	Met	Ile	Asn	Asn	Ser	Arg	Asn	Leu	Asn	Ile
				320					325					330
Gln	Leu	Lys	Trp	Lys	Arg	Pro	Pro	Glu	Asn	Glu	Ala	Pro	Pro	Val
				335					340					345
Pro	Phe	Leu	His	Ala	Gln	Arg	Tyr	Val	Ser	Gly	Tyr	Gly	Leu	Gln
				350					355					360
Lys	Gly	Glu	Leu	Ser	Thr	Leu	Leu	Tyr	Asn	Thr	His	Pro	Tyr	Arg
				365					370					375
Ala	Phe	Pro	Val	Leu	Leu	Leu	Asp	Thr	Val	Pro	Trp	Tyr	Leu	Arg
				380					385					390
Leu	Tyr	Val	His	Thr	Leu	Thr	Ile	Thr	Ser	Lys	Gly	Lys	Glu	Asn
				395					400					405
Lys	Pro	Ser	Tyr	Ile	His	Tyr	Gln	Pro	Ala	Gln	Asp	Arg	Leu	Gln
				410					415					420
Pro	His	Leu	Leu	Glu	Met	Leu	Ile	Gln	Leu	Pro	Ala	Asn	Ser	Val
				425					430					435
Thr	Lys	Val	Ser	Ile	Gln	Phe	Glu	Arg	Ala	Leu	Leu	Lys	Trp	Thr
				440					445					450
Glu	Tyr	Thr	Pro	Asp	Pro	Asn	His	Gly	Phe	Tyr	Val	Ser	Pro	Ser
				455					460					465

Val	Leu	Ser	Ala	Leu	Val	Pro	Ser	Met	Val	Ala	Ala	Lys	Pro	Val
				470					475					480
Asp	Trp	Glu	Glu	Ser	Pro	Leu	Phe	Asn	Ser	Leu	Phe	Pro	Val	Ser
				485					490					495
Asp	Gly	Ser	Asn	Tyr	Phe	Val	Arg	Leu	Tyr	Thr	Glu	Pro	Leu	Leu
				500					505					510
Val	Asn	Leu	Pro	Thr	Pro	Asp	Phe	Ser	Met	Pro	Tyr	Asn	Val	Ile
				515					520					525
Cys	Leu	Thr	Cys	Thr	Val	Val	Ala	Val	Cys	Tyr	Gly	Ser	Phe	Tyr
				530					535					540
Asn	Leu	Leu	Thr	Arg	Thr	Phe	His	Ile	Glu	Glu	Pro	Arg	Thr	Gly
				545					550					555
Gly	Leu	Ala	Lys	Arg	Leu	Ala	Asn	Leu	Ile	Arg	Arg	Ala	Arg	Gly
				560					565					570

Val Pro Pro Leu

<210> 341  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 341  
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<210> 342  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <221> Artificial Sequence  
 <222> 1-24  
 <223> Synthetic oligonucleotide probe

<400> 342  
 ccaactctga ggagagcaag tggc 24

<210> 343  
 <211> 44  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 343  
 tgtatgtgca caccctcacc atcacctcca agggcaagga gaac 44

<210> 344  
 <211> 762  
 <212> DNA  
 <213> Homo sapiens

<400> 344  
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 tgaccctggt ggctgtggaa ggagttaaag agggatataga gaaagcaggg 100  
 gtttggcccag ctgacaaagt acgctgcttc aagtcgcatc ctcccagtg 150  
 tcacacagac caggactgtc tgggggaaaag gaagtgtgt tacctgcact 200  
 gtggcttcaa gtgtgtgatt cctgtgaagg aactggaaga aggaggaac 250  
 aaggatgaag atgtgtcaag gccataccct gagccaggat gggaggccaa 300  
 gtgtccaggc tctctctcta ccagggtgcc tcagaaatga tgctgggtcc 350  
 tttctacctc tgggggtcac tctcacttgg cacctgcccc tgagggtcct 400  
 gagacttga ataatgaaga agcaataccc aaccccacca aagaaaacct 450  
 gagcttgaag tccttttccc caaaaagagg gaagagtcac aaaaagtcca 500  
 gacccaggg acggtacttt cctctctac ctggtgtccc tcctaatagc 550  
 tcatgaatgg acccctcatg aatgaaacca gtgcccttat aagagacccc 600  
 aaagagctgc ctgtcccttc tgcaatgtgt gatcacagct agaaggcact 650  
 gtcagagaag aaaaactggt cctcaccaga tgctgaatct gctggtgct 700  
 tgatcttga cttcccagcc tctagaactg taagaaataa atatttgcgt 750  
 tttataatcc aa 762

<210> 345  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 345  
 Met Gly Ser Ser Ser Phe Leu Val Leu Met Val Ser Leu Val Leu  
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 Val Thr Leu Val Ala Val Glu Gly Val Lys Glu Gly Ile Glu Lys  
 20 25 30  
 Ala Gly Val Cys Pro Ala Asp Asn Val Arg Cys Phe Lys Ser Asp  
 35 40 45  
 Pro Pro Gln Cys His Thr Asp Gln Asp Cys Leu Gly Glu Arg Lys  
 50 55 60  
 Cys Cys Tyr Leu His Cys Gly Phe Lys Cys Val Ile Pro Val Lys  
 65 70 75  
 Glu Leu Glu Glu Gly Gly Asn Lys Asp Glu Asp Val Ser Arg Pro  
 80 85 90  
 Tyr Pro Glu Pro Gly Trp Glu Ala Lys Cys Pro Gly Ser Ser Ser  
 95 100 105  
 Thr Arg Cys Pro Gln Lys  
 110

<210> 346  
<211> 2528  
<212> DNA  
<213> Homo sapiens

<400> 346  
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gccccaggac atgcagaaco ttcctctaga accgaccaca ccaccatgag 150  
gtctctgctg tggagatgca ggcacctgag ccaaggcgctc cagtggctct 200  
tgetttctggc tgtctctggtc ttctttctct tgcctttgcc ctcttttatt 250  
aaggagcctc aaacaaagcc ttccaggcat caacgcacag agaacattaa 300  
agaaaggtct ctacagtccc tggcaaagcc taagtcccag gcacccacaa 350  
ggcgaggagg gacaaccatc tatgcagagc cagcgccaga gaacaatgcc 400  
ctcaacacac aaaccagcc caaggcccac accaccggag acagaggaaa 450  
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cacagagggc agcatggaag agcccagaaa aagagaaaa catggtgaac 550  
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gccagaccag gaagctgacg gcctccagga cgggtgcaga gaagcaccag 700  
ggcaaaagcgg caaccacagc caagacgctc attcccaaaa gtcagcacag 750  
aatgctggct cccacaggag cagtgtcaac aaggacgaga cagaaaaggag 800  
tgaccacagc agtcatcca cctaaggaga agaaacctca ggccaccca 850  
ccccctgccc ctttcagag cccacgacg cagagaaacc aaagactgaa 900  
ggccgccaac ttcaaatctg agcctcggtg ggattttgag gaaaaatata 950  
gcttcgaaat aggaggcctt cagacgactt gccttgactc tgtgaagatc 1000  
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aacactttgc accacccttt ggccttcattg agctcaacta ctcttgggtg 1150  
cagaaggtgc tgacacgctt cctccagtg ccccgacagc agctgtctct 1200  
ggccagcctc ccgctggga gcctccgggt catcacctgt gcggtggtg 1250  
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cagactacg tgttccgatt gagcggagct ctattaaag gctacgaaca 1350  
ggatgtgggg actcggacat ccttctacg ctttaccgct ttctcctga 1400  
cccagtcact ccttatattg ggcaatcggg gtttcaagaa cgtgcctctt 1450



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 tctggttcag gcacagaccg caggaagcctt ttcgggaagc cctgcacatg 1600  
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 ccaccactgg ggccctcctg ctgctcactg ccttcagct ctgtgaccag 1750  
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 ggggccaggg ctgccatggt ctccctgcct gctccaaggc acaggatata 2000  
 gtgggaatct tgagactcct tggccatttc ccatggctca gactaagctc 2050  
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 ctcaagatgg caaatggcta attgaggttc tgaagtctct cagtacattg 2150  
 ctgtaggctc tgaggccagg gatttttaat taaatggggg gatgggtggc 2200  
 caataccaca attcctgctg aaaaacactc ttccagtcca aaagcttctt 2250  
 gatacagaaa aaagagcctg gatttacaga aacatataga tctggtttga 2300  
 attccagatc gagtttacag ttgtgaaatc ttgaagggtat tacttaactt 2350  
 cactacagat tgtctagaag acctttctag gagttatctg attctagaag 2400  
 ggtctatact tgtccttgtc tttaagctat ttgacaactc tacgtgtgtg 2450  
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 attttctaca gtgaaaaaaaa aaaaaaaa 2528

<210> 347  
 <211> 600  
 <212> PRT  
 <213> Homo sapiens

<400> 347  
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 Gln Trp Ser Leu Leu Leu Ala Val Leu Val Phe Phe Leu Phe Ala  
 20 25 30  
 Leu Pro Ser Phe Ile Lys Glu Pro Gln Thr Lys Pro Ser Arg His  
 35 40 45  
 Gln Arg Thr Glu Asn Ile Lys Glu Arg Ser Leu Gln Ser Leu Ala  
 50 55 60  
 Lys Pro Lys Ser Gln Ala Pro Thr Arg Ala Arg Arg Thr Thr Ile

					65					70					75
Tyr	Ala	Glu	Pro	Ala	Pro	Glu	Asn	Asn	Ala	Leu	Asn	Thr	Gln	Thr	90
				80						85					
Gln	Pro	Lys	Ala	His	Thr	Thr	Gly	Asp	Arg	Gly	Lys	Glu	Ala	Asn	105
				95					100						
Gln	Ala	Pro	Pro	Glu	Glu	Gln	Asp	Lys	Val	Pro	His	Thr	Ala	Gln	120
				110					115						
Arg	Ala	Ala	Trp	Lys	Ser	Pro	Glu	Lys	Glu	Lys	Thr	Met	Val	Asn	135
				125					130						
Thr	Leu	Ser	Pro	Arg	Gly	Gln	Asp	Ala	Gly	Met	Ala	Ser	Gly	Arg	150
				140					145						
Thr	Glu	Ala	Gln	Ser	Trp	Lys	Ser	Gln	Asp	Thr	Lys	Thr	Thr	Gln	165
				155					160						
Gly	Asn	Gly	Gly	Gln	Thr	Arg	Lys	Leu	Thr	Ala	Ser	Arg	Thr	Val	180
				170					175						
Ser	Glu	Lys	His	Gln	Gly	Lys	Ala	Ala	Thr	Thr	Ala	Lys	Thr	Leu	195
				185					190						
Ile	Pro	Lys	Ser	Gln	His	Arg	Met	Leu	Ala	Pro	Thr	Gly	Ala	Val	210
				200					205						
Ser	Thr	Arg	Thr	Arg	Gln	Lys	Gly	Val	Thr	Thr	Ala	Val	Ile	Pro	225
				215					220						
Pro	Lys	Glu	Lys	Lys	Pro	Gln	Ala	Thr	Pro	Pro	Pro	Ala	Pro	Phe	240
				230					235						
Gln	Ser	Pro	Thr	Thr	Gln	Arg	Asn	Gln	Arg	Leu	Lys	Ala	Ala	Asn	255
				245					250						
Phe	Lys	Ser	Glu	Pro	Arg	Trp	Asp	Phe	Glu	Glu	Lys	Tyr	Ser	Phe	270
				260					265						
Glu	Ile	Gly	Gly	Leu	Gln	Thr	Thr	Cys	Pro	Asp	Ser	Val	Lys	Ile	285
				275					280						
Lys	Ala	Ser	Lys	Ser	Leu	Trp	Leu	Gln	Lys	Leu	Phe	Leu	Pro	Asn	300
				290					295						
Leu	Thr	Leu	Phe	Leu	Asp	Ser	Arg	His	Phe	Asn	Gln	Ser	Glu	Trp	315
				305					310						
Asp	Arg	Leu	Glu	His	Phe	Ala	Pro	Pro	Phe	Gly	Phe	Met	Glu	Leu	330
				320					325						
Asn	Tyr	Ser	Leu	Val	Gln	Lys	Val	Val	Thr	Arg	Phe	Pro	Pro	Val	345
				335					340						
Pro	Gln	Gln	Gln	Leu	Leu	Leu	Ala	Ser	Leu	Pro	Ala	Gly	Ser	Leu	360
				350					355						
Arg	Cys	Ile	Thr	Cys	Ala	Val	Val	Gly	Asn	Gly	Gly	Ile	Leu	Asn	375
				365					370						
Asn	Ser	His	Met	Gly	Gln	Glu	Ile	Asp	Ser	His	Asp	Tyr	Val	Phe	

0907-6868

0907-6868

[illegible]

ctttatacac atccccctcat ggacaagaga tttatitttg cagacagact 400  
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 tattcgataa atcagtgatc ttgacagtggt tatctgtcac ttattt 496

<210> 349  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 349  
 Met Arg Gly Pro Gly His Pro Leu Leu Leu Gly Leu Leu Leu Val  
 1 5 10 15  
 Leu Gly Pro Ser Pro Glu Gln Arg Val Glu Ile Val Pro Arg Asp  
 20 25 30  
 Leu Arg Met Lys Asp Lys Phe Leu Lys His Leu Thr Gly Pro Leu  
 35 40 45  
 Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His  
 50 55 60  
 Asn Thr Arg Asp Cys Thr Ile Pro Ala Tyr Tyr Lys Arg Cys Ala  
 65 70 75  
 Arg Leu Leu Thr Arg Leu Ala Val Ser Pro Val Cys Met Glu Asp  
 80 85 90  
 Lys

<210> 350  
 <211> 1141  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
 gggctggggc ccgcccgcagc tccagctggc cggcttggtc ctgcgggtccc 50  
 ttctctggga ggcccgcacc cggccgcgcc cagccccac catgccacc 100  
 gcggggctcc gccggggccg gccgctcacc gcaatcgctc tgttggtgct 150  
 gggggctccc ctggtgctgg ccggcgagga ctgcctgtgg tacctggacc 200  
 ggaatggctc ctggcaccg gggtttaact gcgagttctt cacttctgc 250  
 tgccgggacct gctaccatcg gtactgctgc agggacctga ccttgcttat 300  
 caccgagagg cagcagaagc actgcctggc cttcagcccc aagaccatag 350  
 caggcatcgc ctcagctgtg atcctctttg ttgctgtggt tgcaccacc 400  
 atctgctgct tcctctgttc ctgttgctac ctgtaccgcc ggcgcacgca 450  
 gctccagagc ccatttgaag gccaggagat tccaatgaca ggcatcccag 500  
 tgcagccagt ataccatac cccagagacc ccaaagctgg ccctgcaccc 550  
 ccacagcctg gcttcagtga ccacctagt ggtcctgctc cccaatatcc 600

actctaccca gctgggcccc cagtctacaa cctgcagct cctcctccct 650  
 atatgccacc acagccctct taccggggag cctgaggaac cagccatgtc 700  
 totgtctgcc ctccagtgat gccaaccttg ggagatgccc tcatcctgta 750  
 cctgcatctg gtcctggggg tggcaggagt cctccagcca ccaggcccca 800  
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 aacaggagct gaactagaac tatgaggggt tggggggagg gcttggaatt 900  
 atgggctatt ttctactgggg gcaaggggagg gagatgacag cctgggtcac 950  
 agtgccctgt ttcaaatagt cctctgtctc ccaagatccc agccaggaag 1000  
 gctggggccc tactgtttgt cccctctggg ctgggggtggg gggagggagg 1050  
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<210> 351

<211> 197

<212> PRT

<213> Homo sapiens

<400> 351

Met	Pro	Pro	Ala	Gly	Leu	Arg	Arg	Ala	Ala	Pro	Leu	Thr	Ala	Ile
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Ala	Leu	Leu	Val	Leu	Gly	Ala	Pro	Leu	Val	Leu	Ala	Gly	Glu	Asp
			20						25					30
Cys	Leu	Trp	Tyr	Leu	Asp	Arg	Asn	Gly	Ser	Trp	His	Pro	Gly	Phe
			35						40					45
Asn	Cys	Glu	Phe	Phe	Thr	Phe	Cys	Cys	Gly	Thr	Cys	Tyr	His	Arg
			50						55					60
Tyr	Cys	Cys	Arg	Asp	Leu	Thr	Leu	Leu	Ile	Thr	Glu	Arg	Gln	Gln
			65						70					75
Lys	His	Cys	Leu	Ala	Phe	Ser	Pro	Lys	Thr	Ile	Ala	Gly	Ile	Ala
			80						85					90
Ser	Ala	Val	Ile	Leu	Phe	Val	Ala	Val	Val	Ala	Thr	Thr	Ile	Cys
			95						100					105
Cys	Phe	Leu	Cys	Ser	Cys	Cys	Tyr	Leu	Tyr	Arg	Arg	Arg	Gln	Gln
			110						115					120
Leu	Gln	Ser	Pro	Phe	Glu	Gly	Gln	Glu	Ile	Pro	Met	Thr	Gly	Ile
			125						130					135
Pro	Val	Gln	Pro	Val	Tyr	Pro	Tyr	Pro	Gln	Asp	Pro	Lys	Ala	Gly
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Pro	Ala	Pro	Pro	Gln	Pro	Gly	Phe	Met	Tyr	Pro	Pro	Ser	Gly	Pro
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Ala	Pro	Gln	Tyr	Pro	Leu	Tyr	Pro	Ala	Gly	Pro	Pro	Val	Tyr	Asn
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<211> 3226

<212> DNA

<213> Homo sapiens

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 50 55 60  
 Val His Tyr Asp Leu Leu Ile His Ala Asn Leu Thr Thr Leu Thr  
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 Phe Trp Gly Thr Thr Lys Val Glu Ile Thr Ala Ser Gln Pro Thr  
 80 85 90  
 Ser Thr Ile Ile Leu His Ser His His Leu Gln Ile Ser Arg Ala  
 95 100 105  
 Thr Leu Arg Lys Gly Ala Gly Glu Arg Leu Ser Glu Glu Pro Leu  
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 Gln Val Leu Glu His Pro Pro Gln Glu Gln Ile Ala Leu Leu Ala  
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 Pro Glu Pro Leu Leu Val Gly Leu Pro Tyr Thr Val Val Ile His  
 140 145 150  
 Tyr Ala Gly Asn Leu Ser Glu Thr Phe His Gly Phe Tyr Lys Ser  
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 Thr Tyr Arg Thr Lys Glu Gly Glu Leu Arg Ile Leu Ala Ser Thr  
 170 175 180  
 Gln Phe Glu Pro Thr Ala Ala Arg Met Ala Phe Pro Cys Phe Asp  
 185 190 195  
 Glu Pro Ala Phe Lys Ala Ser Phe Ser Ile Lys Ile Arg Arg Glu  
 200 205 210  
 Pro Arg His Leu Ala Ile Ser Asn Met Pro Leu Val Lys Ser Val



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Thr	Val	Ala	Glu	Gly	Leu	Ile	Glu	Asp	His	Phe	Asp	Val	Thr	Val						Thr	Val	Ala	Glu	Gly	Leu	Ile	Glu	Asp	His	Phe	Asp	Val	Thr	Val				Thr	Val	Ala	Glu	Gly	Leu	Ile	Glu	Asp	His	Phe	Asp	Val	Thr	Val			
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				245																				250																	255														
Ser	Val	Ser	Lys	Ile	Thr	Lys	Ser	Gly	Val	Lys	Val	Ser	Val	Tyr						Ser	Val	Ser	Lys	Ile	Thr	Lys	Ser	Gly	Val	Lys	Val	Ser	Val	Tyr				Ser	Val	Ser	Lys	Ile	Thr	Lys	Ser	Gly	Val	Lys	Val	Ser	Val	Tyr			
				260																				265																	270														
Ala	Val	Pro	Asp	Lys	Ile	Asn	Gln	Ala	Asp	Tyr	Ala	Leu	Asp	Ala						Ala	Val	Pro	Asp	Lys	Ile	Asn	Gln	Ala	Asp	Tyr	Ala	Leu	Asp	Ala				Ala	Val	Pro	Asp	Lys	Ile	Asn	Gln	Ala	Asp	Tyr	Ala	Leu	Asp	Ala			
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Ala	Val	Thr	Leu	Leu	Glu	Phe	Tyr	Glu	Asp	Tyr	Phe	Ser	Ile	Pro						Ala	Val	Thr	Leu	Leu	Glu	Phe	Tyr	Glu	Asp	Tyr	Phe	Ser	Ile	Pro				Ala	Val	Thr	Leu	Leu	Glu	Phe	Tyr	Glu	Asp	Tyr	Phe	Ser	Ile	Pro			
				290																				295																	300														
Tyr	Pro	Leu	Pro	Lys	Gln	Asp	Leu	Ala	Ala	Ile	Pro	Asp	Phe	Gln						Tyr	Pro	Leu	Pro	Lys	Gln	Asp	Leu	Ala	Ala	Ile	Pro	Asp	Phe	Gln				Tyr	Pro	Leu	Pro	Lys	Gln	Asp	Leu	Ala	Ala	Ile	Pro	Asp	Phe	Gln			
				305																				310																	315														
Ser	Gly	Ala	Met	Glu	Asn	Trp	Gly	Leu	Thr	Thr	Tyr	Arg	Glu	Ser						Ser	Gly	Ala	Met	Glu	Asn	Trp	Gly	Leu	Thr	Thr	Tyr	Arg	Glu	Ser				Ser	Gly	Ala	Met	Glu	Asn	Trp	Gly	Leu	Thr	Thr	Tyr	Arg	Glu	Ser			
				320																				325																	330														
Ala	Leu	Leu	Phe	Asp	Ala	Glu	Lys	Ser	Ser	Ala	Ser	Ser	Lys	Leu						Ala	Leu	Leu	Phe	Asp	Ala	Glu	Lys	Ser	Ser	Ala	Ser	Ser	Lys	Leu				Ala	Leu	Leu	Phe	Asp	Ala	Glu	Lys	Ser	Ser	Ala	Ser	Ser	Lys	Leu			
				335																				340																	345														
Gly	Ile	Thr	Val	Thr	Val	Ala	His	Glu	Leu	Ala	His	Gln	Trp	Phe						Gly	Ile	Thr	Val	Thr	Val	Ala	His	Glu	Leu	Ala	His	Gln	Trp	Phe				Gly	Ile	Thr	Val	Thr	Val	Ala	His	Glu	Leu	Ala	His	Gln	Trp	Phe			
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Asp	Ala	Met	Glu	Val	Asp	Ala	Leu	Asn	Ser	Ser	His	Pro	Val	Ser						Asp	Ala	Met	Glu	Val	Asp	Ala	Leu	Asn	Ser	Ser	His	Pro	Val	Ser				Asp	Ala	Met	Glu	Val	Asp	Ala	Leu	Asn	Ser	Ser	His	Pro	Val	Ser			
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Thr	Pro	Val	Glu	Asn	Pro	Ala	Gln	Ile	Arg	Glu	Met	Phe	Asp	Asp						Thr	Pro	Val	Glu	Asn	Pro	Ala	Gln	Ile	Arg	Glu	Met	Phe	Asp	Asp				Thr	Pro	Val	Glu	Asn	Pro	Ala	Gln	Ile	Arg	Glu	Met	Phe	Asp	Asp			
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				515																				520																	525														
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560	565	570
Thr Ser Lys Ser Asn Met Val His Arg	Phe Leu Leu Lys Thr Lys	
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Thr Asp Val Leu Ile Leu Pro Glu Glu	Val Glu Trp Ile Lys Phe	
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Asn Val Gly Met Asn Gly Tyr Tyr Ile	Val His Tyr Glu Asp Asp	
605	610	615
Gly Trp Asp Ser Leu Thr Gly Leu Leu Lys	Gly Thr His Thr Ala	
620	625	630
Val Ser Ser Asn Asp Arg Ala Ser Leu	Ile Asn Asn Ala Phe Gln	
635	640	645
Leu Val Ser Ile Gly Lys Leu Ser Ile	Glu Lys Ala Leu Asp Leu	
650	655	660
Ser Leu Tyr Leu Lys His Glu Thr Glu	Ile Met Pro Val Phe Gln	
665	670	675
Gly Leu Asn Glu Leu Ile Pro Met Tyr	Lys Leu Met Glu Lys Arg	
680	685	690
Asp Met Asn Glu Val Glu Thr Gln Phe	Lys Ala Phe Leu Ile Arg	
695	700	705
Leu Leu Arg Asp Leu Ile Asp Lys Gln	Thr Trp Thr Asp Glu Gly	
710	715	720
Ser Val Ser Glu Gln Met Leu Arg Ser	Glu Leu Leu Leu Ala	
725	730	735
Cys Val His Asn Tyr Gln Pro Cys Val	Gln Arg Ala Glu Gly Tyr	
740	745	750
Phe Arg Lys Trp Lys Glu Ser Asn Gly	Asn Leu Ser Leu Pro Val	
755	760	765
Asp Val Thr Leu Ala Val Phe Ala Val	Gly Ala Gln Ser Thr Glu	
770	775	780
Gly Trp Asp Phe Leu Tyr Ser Lys Tyr	Gln Phe Ser Leu Ser Ser	
785	790	795
Thr Glu Lys Ser Gln Ile Glu Phe Ala	Leu Cys Arg Thr Gln Asn	
800	805	810
Lys Glu Lys Leu Gln Trp Leu Leu Asp	Glu Ser Phe Lys Gly Asp	
815	820	825
Lys Ile Lys Thr Gln Glu Phe Pro Gln	Ile Leu Thr Leu Ile Gly	
830	835	840
Arg Asn Pro Val Gly Tyr Pro Leu Ala	Trp Gln Phe Leu Arg Lys	

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Asn Trp Asn Lys Leu Val Gln Lys Phe Glu Leu Gly Ser Ser Ser		
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Ile Ala His Met Val Met Gly Thr Thr Asn Gln Phe Ser Thr Arg		
875	880	885
Thr Arg Leu Glu Glu Val Lys Gly Phe Phe Ser Ser Leu Lys Glu		
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Asn Gly Ser Gln Leu Arg Cys Val Gln Gln Thr Ile Glu Thr Ile		
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<211> 1587

<212> DNA

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<211> 437

<212> PRT

<213> Homo sapiens

<400> 355

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His	Val	Trp	Lys	Val	Ser	Asp	Leu	Pro	Arg	Gln	Trp	Thr	Pro	Lys	35	40	45
Asn	Thr	Ser	Cys	Asp	Ser	Gly	Leu	Gly	Cys	Gln	Asp	Thr	Leu	Met	50	55	60
Leu	Ile	Glu	Ser	Gly	Pro	Gln	Val	Ser	Leu	Val	Leu	Ser	Lys	Gly	65	70	75
Cys	Thr	Glu	Ala	Lys	Asp	Gln	Glu	Pro	Arg	Val	Thr	Glu	His	Arg	80	85	90
Met	Gly	Pro	Gly	Leu	Ser	Leu	Ile	Ser	Thr	Thr	Phe	Val	Cys	Arg	95	100	105
Gln	Glu	Asp	Phe	Cys	Asn	Asn	Leu	Val	Asn	Ser	Leu	Pro	Leu	Trp	110	115	120
Ala	Pro	Gln	Pro	Pro	Ala	Asp	Pro	Gly	Ser	Leu	Arg	Cys	Pro	Val	125	130	135
Cys	Leu	Ser	Met	Glu	Gly	Cys	Leu	Glu	Gly	Thr	Thr	Glu	Glu	Ile	140	145	150
Cys	Pro	Lys	Gly	Thr	Thr	His	Cys	Tyr	Asp	Gly	Leu	Leu	Arg	Leu			

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Arg Gly Gly Gly	Ile Phe Ser Asn Leu	Arg Val Gln Gly Cys Met			
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	185	190			
Pro Val Gly Met	Thr Glu Asn Cys Asn Arg	Lys Asp Phe Leu Thr			
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Cys His Arg Gly	Thr Thr Ile Met Thr	Gly Asn Leu Ala Gln			
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Glu Pro Thr Asp	Trp Thr Thr Ser Asn Thr	Glu Met Cys Glu Val			
	230	235			
Gly Gln Val Cys	Gln Glu Thr Leu Leu Leu	Ile Asp Val Gly			
	245	250			
Thr Ser Thr Leu	Val Gly Thr Lys Gly Cys	Ser Thr Val Gly Ala			
	260	265			
Gln Asn Ser Gln	Lys Thr Thr Ile His	Ser Ala Pro Pro Gly Val			
	275	280			
Leu Val Ala Ser	Tyr Thr His Phe Cys	Ser Ser Asp Leu Cys Asn			
	290	295			
Ser Ala Ser Ser	Ser Ser Val Leu Leu Asn	Ser Leu Pro Pro Gln			
	305	310			
Ala Ala Pro Val	Pro Gly Asp Arg Gln Cys	Pro Thr Cys Val Gln			
	320	325			
Pro Leu Gly Thr	Cys Ser Ser Gly Ser	Pro Arg Met Thr Cys			
	335	340			
Arg Gly Ala Thr	His Cys Tyr Asp Gly Tyr	Ile His Leu Ser Gly			
	350	355			
Gly Gly Leu Ser	Thr Lys Met Ser Ile Gln	Gly Cys Val Ala Gln			
	365	370			
Pro Ser Ser Phe	Leu Leu Asn His Thr Arg	Gln Ile Gly Ile Phe			
	380	385			
Ser Ala Arg Glu	Lys Arg Asp Val Gln Pro	Pro Ala Ser Gln His			
	395	400			
Glu Gly Gly Gly	Ala Glu Gly Leu Glu Ser	Leu Thr Trp Gly Val			
	410	415			
Gly Leu Ala Leu	Ala Pro Ala Leu Trp Trp	Gly Val Val Cys Pro			
	425	430			

Ser Cys

<210> 356  
 <211> 1238  
 <212> DNA  
 <213> Homo sapiens

<400> 356  
 gcgacgggca ggacgccccg ttgcgctagc gcgtgctcag gagttggtgt 50  
 cctgcctcgc ctcaggatga gggggaatct ggccttggtg ggcgttctaa 100  
 tcagcctggc cttcctgtca ctgctgccat ctggacatcc tcagccggct 150  
 ggcgatgacg cctgctctgt gcagatcctc gtccctggcc tcaaagggga 200  
 tgccggagag aaggagagaca aaggcgcccc cggaaggcct ggaagagtcg 250  
 gcccacggg agaaaaagga gacatggggg acaaaggaca gaaaggcagt 300  
 gtgggtcgtc atggaaaaat tgggtccatt ggctctaaag gtgagaaaag 350  
 agattccggt gacataggac cccctgggtcc taatggagaa ccaggcctcc 400  
 catgtgagtg cagccagctg cgcaaggcca tcgggggagat ggacaaccag 450  
 gtctctcagc tgaccagcga gctcaagttc atcaagaatg ctgtgcgcgg 500  
 tgtgcgcgag acggagagca agatctacct gctggtgaag gaggagaagc 550  
 gctacgcgga cgcccagctg tcctgccagg gccgcggggg cagcctgagc 600  
 atgcccaagg acgaggctgc caatggcctg atggccgcat acctggcgca 650  
 agccggcctg gcccggtgtc tcactggcat caacgacctg gagaaggagg 700  
 gcgccttcgt gtactctgac cactccccca tgcggacctt caacaagtgg 750  
 cgcagcgggt agcccaacaa tgcctacgac gaggaggact gcgtggagat 800  
 ggtggcctcg ggcggctgga acgacgtggc ctgccacacc accatgtact 850  
 tcattgttga gtttgacaag gagaacatgt gacgctcagg ctggggctgc 900  
 ccattggggg ccccatatgt ccttcgaggg ttggcaggga cagagcccag 950  
 accatgtgac cagccaggga gctgtccctc tgtgaagggt ggaggctcac 1000  
 tgagttagagg gctgtgtgtc aaactgagaa aatggcctat gcttaagagg 1050  
 aaaatgaaag tgttcctggg gtgctgtctc tgaagaagca gagtttcatt 1100  
 acctgtattg tagcccaaat gtcattatgt aattattacc cagaattgct 1150  
 cttccataaa gcttgtgcct ttgtccaagc tatacaataa aatctttaag 1200  
 tagtgacgta gtttaagtcca aaaaaaaaaa aaaaaaaaaa 1238

<210> 357  
 <211> 271  
 <212> PRT  
 <213> Homo sapiens

<400> 357  
 Met Arg Gly Asn Leu Ala Leu Val Gly Val Leu Ile Ser Leu Ala  
 1 5 10 15  
 Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp  
 20 25 30

Asp	Ala	Cys	Ser	Val	Gln	Ile	Leu	Val	Pro	Gly	Leu	Lys	Gly	Asp	
				35						40					45
Ala	Gly	Glu	Lys	Gly	Asp	Lys	Gly	Ala	Pro	Gly	Arg	Pro	Gly	Arg	
				50					55						60
Val	Gly	Pro	Thr	Gly	Glu	Lys	Gly	Asp	Met	Gly	Asp	Lys	Gly	Gln	
				65					70						75
Lys	Gly	Ser	Val	Gly	Arg	His	Gly	Lys	Ile	Gly	Pro	Ile	Gly	Ser	
				80					85						90
Lys	Gly	Glu	Lys	Gly	Asp	Ser	Gly	Asp	Ile	Gly	Pro	Pro	Gly	Pro	
				95					100						105
Asn	Gly	Glu	Pro	Gly	Leu	Pro	Cys	Glu	Cys	Ser	Gln	Leu	Arg	Lys	
				110					115						120
Ala	Ile	Gly	Glu	Met	Asp	Asn	Gln	Val	Ser	Gln	Leu	Thr	Ser	Glu	
				125					130						135
Leu	Lys	Phe	Ile	Lys	Asn	Ala	Val	Ala	Gly	Val	Arg	Glu	Thr	Glu	
				140					145						150
Ser	Lys	Ile	Tyr	Leu	Leu	Val	Lys	Glu	Glu	Lys	Arg	Tyr	Ala	Asp	
				155					160						165
Ala	Gln	Leu	Ser	Cys	Gln	Gly	Arg	Gly	Gly	Thr	Leu	Ser	Met	Pro	
				170					175						180
Lys	Asp	Glu	Ala	Ala	Asn	Gly	Leu	Met	Ala	Ala	Tyr	Leu	Ala	Gln	
				185					190						195
Ala	Gly	Leu	Ala	Arg	Val	Phe	Ile	Gly	Ile	Asn	Asp	Leu	Glu	Lys	
				200					205						210
Glu	Gly	Ala	Phe	Val	Tyr	Ser	Asp	His	Ser	Pro	Met	Arg	Thr	Phe	
				215					220						225
Asn	Lys	Trp	Arg	Ser	Gly	Glu	Pro	Asn	Asn	Ala	Tyr	Asp	Glu	Glu	
				230					235						240
Asp	Cys	Val	Glu	Met	Val	Ala	Ser	Gly	Gly	Trp	Asn	Asp	Val	Ala	
				245					250						255
Cys	His	Thr	Thr	Met	Tyr	Phe	Met	Cys	Glu	Phe	Asp	Lys	Glu	Asn	
				260					265						270

Met

<210> 358  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 358  
 agtgactgca gccttccctag atccctccca ctgggtttct ctctttgcag 50  
 gaggaccggc agcaccagtg tgtgagggga gcaggcagcg gtccctagcca 100  
 gttccttgat cctgccagac caccagccc ccggcacaga gctgctccac 150

aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200  
 tagctcagag ctttggggct gtctgtaagg agccacagga ggaggtaggt 250  
 cctggcgggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300  
 gagactcttc aaaagccact catctctgga gggattgctc aaagccctga 350  
 gccaggctag cacagatcct aaggaatcaa catctcccga gaaacgtgac 400  
 atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450  
 gggaagaca ggacctttct taccttcagt gagggttcct cggcccttc 500  
 atcccaatca gcttgatcc acaggaagt cttccctggg aacagaggag 550  
 cagagacctt tataagactc tcctacggat gtgaatcaag agaacgtccc 600  
 cagctttggc atcctcaagt atcccccgag agcagaatag gtactccact 650  
 tccggactcc tggactgcat taggaagacc tctttccctg tcccaatccc 700  
 caggtgcgca cgctcctgtt accctttctc ttcctgttc ttgtaacatt 750  
 cttgtgcttt gactccttct ccatcttttc tacctgacct tgggtgtgaa 800  
 actgcatagt gaatatcccc aacccaatg ggcatgact gtagaatacc 850  
 cttaggttcc tgtagtgctc tacattaaaa atataatgct tctctctatt 900  
 cctcaacaat aaaggatttt tgcatatgaa aaaaaaaaaa aaaaaaaaaa 950  
 aaaaaaaaaa aaaaaaaaaa aa 972

<210> 359

<211> 135

<212> PRT

<213> Homo sapiens

<400> 359

Met	Arg	Ile	Met	Leu	Leu	Phe	Thr	Ala	Ile	Leu	Ala	Phe	Ser	Leu	1	5	10	15
Ala	Gln	Ser	Phe	Gly	Ala	Val	Cys	Lys	Glu	Pro	Gln	Glu	Glu	Val	20	25	30	
Val	Pro	Gly	Gly	Arg	Ser	Lys	Arg	Asp	Pro	Asp	Leu	Tyr	Gln		35	40	45	
Leu	Leu	Gln	Arg	Leu	Phe	Lys	Ser	His	Ser	Ser	Leu	Glu	Gly	Leu	50	55	60	
Leu	Lys	Ala	Leu	Ser	Gln	Ala	Ser	Thr	Asp	Pro	Lys	Glu	Ser	Thr	65	70	75	
Ser	Pro	Glu	Lys	Arg	Asp	Met	His	Asp	Phe	Phe	Val	Gly	Leu	Met	80	85	90	
Gly	Lys	Arg	Ser	Val	Gln	Pro	Glu	Gly	Lys	Thr	Gly	Pro	Phe	Leu	95	100	105	
Pro	Ser	Val	Arg	Val	Pro	Arg	Pro	Leu	His	Pro	Asn	Gln	Leu	Gly	110	115	120	



Ser Thr Gly Lys Ser Ser Leu Gly Thr Glu Glu Gln Arg Pro Leu  
125 130 135

<210> 360  
<211> 1738  
<212> DNA  
<213> Homo sapiens

<400> 360  
gggcgtctcc ggctgctcct attgagctgt ctgctcgtctg tgcgccgtgt 50  
gcctgctgtg cccgcgctgt cgcgcgtgct accgcgtctg ctggaagcgg 100  
gagacgcccag cgagctgggtg attggagccc tgcggagagc tcaagcggcc 150  
agctctgccc caggagccca ggctgccccg tgagtcctcat agttgctgca 200  
ggagtggagc catgagctgc gtctctgggtg gtgtcatccc ctggggctg 250  
ctgttctctg tctgcggatc ccaaggctac ctctgcccc acgtcactct 300  
cttagaggag ctgctcagca aataccagca caacgagtct cactcccg 350  
tccgcagagc catccccagg gaggacaagg aggagatcct catgctgcac 400  
aacaagcttc ggggccagggt gcagcctcag gcctccaaca tggagtacat 450  
ggtgagcgcc ggetccggcc cgagaggctg gcaccggggg tggggcctg 500  
gccaccagcc tgctctgttc ccagccagc tctgttcccc agccagtgcg 550  
tgtgatggct ggctcagggt ctctctgtgc aggggaggat cccggtctg 600  
ttctgtttt tttgtttgt ttgagacagg gtctcactct gccactgacg 650  
ctggagtgca atggcacaat cgtcatgccc tgaaacctta gactcccg 700  
gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750  
accatggtgc ccagctagat tttaaatatt ttgtggagat gggggtctt 800  
ctacgttgcc caggctggtc ttgaactcct aggtcaagc aatctctctg 850  
cctcagcctc tcaaaagtgt aggattatag gcattgagtc ccctgtctg 900  
ctctggctct gttcttaaca ttctgocaaa acaacacagc tgggttcct 950  
gtgcagagcc tgcctcgtt ccttcattgc actcttggtg gctccactg 1000  
gaacacagct ctcagccttt cccacctgga ggcagagtgg ggaggggccc 1050  
agggctgggc tttgctgatg ctgatctcag ctgtgccaca cgctagctgc 1100  
accacctga cttctcctta gcccggtgta gcctcacttt ccaactggag 1150  
agtcctctct cgcgtggttg ccatgactgt gagataagtc gaggctgta 1200  
agggcccgcc acagactgac ctgcctcccc aaccctagg ctttgctaac 1250  
cgggaaaagg gctaacggtg acagaagaca gccaaagtc accctcccg 1300  
gtgattgtga tgggtgttcc aggtgtggtt gggcgatgct gctacttgac 1350

cccaagctcc agtgtggaaa ctctcttctt ggctgggttt ccagaactac 1400  
 agaggaatgg accacagtct tccagggtcc ctctctgtcc accaacgggg 1450  
 agcctccacc ttggccatcc gtcagctatg aatggctttt taaacaaacc 1500  
 cacgtccacg cctgggtaac atggtaaagc cccgtctcta caaaaaaacc 1550  
 caagtttagcc gggcatgggt gtgcgcacct gtagtccacg ctgcagtggtg 1600  
 actgaggtgg aggtggaggt ggggggtggg agctgaggaa ggaggatcgc 1650  
 ttgagcctgg gaagtcgagg ctgcagtgag ctgagattgc accactgcac 1700  
 tccagcctgg gtgacagagc aagaccctgt ctcaaaaa 1738

<210> 361

<211> 159

<212> PRT

<213> Homo sapiens

<400> 361

Met	Ser	Cys	Val	Leu	Gly	Gly	Val	Ile	Pro	Leu	Gly	Leu	Leu	Phe	1	5	10	15
Leu	Val	Cys	Gly	Ser	Gln	Gly	Tyr	Leu	Leu	Pro	Asn	Val	Thr	Leu	20	25	30	
Leu	Glu	Glu	Leu	Leu	Ser	Lys	Tyr	Gln	His	Asn	Glu	Ser	His	Ser	35	40	45	
Arg	Val	Arg	Arg	Ala	Ile	Pro	Arg	Glu	Asp	Lys	Glu	Glu	Ile	Leu	50	55	60	
Met	Leu	His	Asn	Lys	Leu	Arg	Gly	Gln	Val	Gln	Pro	Gln	Ala	Ser	65	70	75	
Asn	Met	Glu	Tyr	Met	Val	Ser	Ala	Gly	Ser	Gly	Arg	Arg	Gly	Trp	80	85	90	
His	Arg	Gly	Trp	Gly	Leu	Gly	His	Gln	Pro	Ala	Leu	Phe	Pro	Ser	95	100	105	
Gln	Leu	Cys	Ser	Pro	Ala	Ser	Ala	Cys	Asp	Gly	Trp	Leu	Arg	Val	110	115	120	
Ser	Ser	Gly	Arg	Gly	Gly	Ser	Arg	Leu	Cys	Ser	Val	Leu	Phe	Val	125	130	135	
Cys	Phe	Glu	Thr	Gly	Ser	His	Ser	Ala	Thr	Asp	Ala	Gly	Val	Gln	140	145	150	
Trp	His	Asn	Arg	His	Ala	Leu	Lys	Pro	155									

<210> 362

<211> 422

<212> DNA

<213> Homo sapiens

<400> 362

aaggagaggc caccgggact tcaagtgtctc ctccatccca ggagcgcagt 50

ggccactatg gggctctgggc tgccccttgt cctcctcttg accctccttg 100  
gcagctcaca tggaacaggg ccgggtatga ctttgcaact gaagctgaag 150  
gagtccttctc tgacaaattc ctctatgag tccagcttcc tggaaattgct 200  
tgaaaagctc tgccctctcc tccatctccc ttcagggacc agcgtcacc 250  
tccaccatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300  
ttgaagcctg tgtccttctt ggcccgggct tttgggcccg ggaatgcagga 350  
ggcaggcccc gacctgtct ttcagcaggc cccaccctc ctgagtggca 400  
ataaataaaa ttcggtatgc tg 422

<210> 363  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 363  
Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly 15  
1 5 10  
Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu 30  
20 25  
Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu 45  
35 40  
Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly 60  
50 55  
Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val 75  
65 70  
Cys Asn Thr

<210> 364  
<211> 826  
<212> DNA  
<213> Homo sapiens

<400> 364  
aattgtatct gtgtaatgtt aaaacaaacg aaataaaata gaaggaaaaa 50  
ctttctgagt ttcaaaaaca acagactagt actctaaaga actctttaaa 100  
acaattaact gttaggattg cagttatgat tggatattat ttaattctgt 150  
ttctgatgtg gggttcctcc actgtgttct gtgtgctatt aatatttacc 200  
attgcagaag cttcattcag tgttgaaaat gaatgcttag tggatctgtg 250  
cctcttacgc atatgttaca aattatcttg agttcctaata caatgcagag 300  
ttccctccc ctccgattgt tctaaataat tgaagatgt ctgctgtgga 350  
aaaaggcatg tatttaaatc tgtatgattc tcaacctctt ttagtggga 400  
aaggctcctg aaagccaatg gaaatacttt tttttttctt tggcactaat 450

caagtgagtg ttacottttc acttagtagg atgtgttggt acgctagtaa 500  
aatagaacc tgtgtttatt ctcagggtatt ttagaacaa cagccatcat 550  
tttttttat gtgtgtgttc ttggctgtat tcataaatta tatattttgg 600  
gctatcaaat attacttcac tcaatataaa taacaatagt agaagttggt 650  
tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700  
ttgttgtaat agcctttgaa atttacagta ctgtctctct actatcttca 750  
gattacttga ttcaataaaa ccaattatgt ttgtaattga tattaataaa 800  
accagaataa aagttcatat ctacc 826

<210> 365  
<211> 67  
<212> PRT  
<213> Homo sapiens

<400> 365  
Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser  
1 5 10 15  
Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser  
20 25 30  
Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg  
35 40 45  
Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro  
50 55 60  
Leu Pro Ser Asp Cys Ser Lys  
65

<210> 366  
<211> 2475  
<212> DNA  
<213> Homo sapiens

<400> 366  
gaggatttgc cacagcagcg gatagagcag gagagcacca ccggagccct 50  
tgagacatcc ttgagaagag ccacagcata agagactgcc ctgcttggtg 100  
ttttgcagga tgatgggtgc ccttcgagga gcttctgcat tgctgtttct 150  
gttccttgca gctttttctgc ccccgccgca gtgtaccag gaccagacca 200  
tggtgcatta catctaccag cgctttcgag tcttgagca agggctggaa 250  
aaatgtatccc aagcaacgag ggcatatatt caagaattcc aagagtcttc 300  
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acaagagtgc agtgggtaac ttggcactga gagttgaacg tgcccaacgg 400  
gagattgact acatacaata ccttcgagag gctgacgagt gcatcgtatc 450  
agaggacaag aactggcgag aaatgttgct ccaagaagct gaagaagaga 500

aaaagatccg gactctgctg aatgcaagct gtgacaacat gctgatgggc 550  
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 gatgaaagat gctgtctata actctccaaa ggtgtactta ttaattggat 650  
 ccagaacaa cactgtttgg gaatttgcaa acatacgggc attcatggag 700  
 gataacacca agccagctcc ccggaagcaa atcctaacac ttctctggca 750  
 gggaacaggc caagtgatct acaaaggttt tctatttttt cataaccaag 800  
 caacttctaa tgagataatc aatatatacc tgcagaagag gactgtggaa 850  
 gatcgaatgc tgctcccagg aggggtaggc cgagcattgg ttaccagca 900  
 ctccccctca acttacattg acctggctgt ggatgagcat gggctctggg 950  
 ccatccactc tgggccaggc acccatagcc atttggtctt cacaaagatt 1000  
 gagccgggca cactggggagt ggagcattca tgggataccc catgcagaag 1050  
 ccaggatgct gaagcctcat tctcttgtg tggggttctc tatgtggtct 1100  
 acagtactgg gggccagggc cctcatcgca tcacctgcat ctatgatcca 1150  
 ctgggcacta tcagttagga ggacttgccc aactgtttct tccccagag 1200  
 accaagaagt cactccatga tccattacaa cccagagat aagcagctct 1250  
 atgcotggaa tgaaggaac cagatcattt acaactcca gacaaagaga 1300  
 aagctgcctc tgaagtaatg cattacagct gtgagaaaga gactgtggc 1350  
 ttggcagct gttctacagg acagttaggc tatagccct tcacaatata 1400  
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 cctcttggt ctcaaggatg accacattct gatacagcct acttcaagcc 1600  
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 ccacaattag agttgtatgc cagccctaa tattccacc tggttttct 1700  
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 ttgaggttta acctctattt cccctagccc tgtccttcca ctaagcttg 2000  
 tagatgtaat aataaagtga aatatattaac atttgaata cgctttccag 2050  
 gtgtggagtg ttgcacatc attgaattct cgtttcacct ttgtgaaaca 2100

tgcacaagtc ttacagctg tcattctaga gtttaggtga gtaacacaat 2150  
 tacaagtga aagatacagc tagaaaatac tacaatccc atagtttttc 2200  
 cattgcccac ggaagcatca aatacgtatg tttgttcacc tactcttata 2250  
 gtcaatgcgt tcatcgtttc agcctaaaaa taatagtctg tcccttttagc 2300  
 cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350  
 tctccagaa aaccagtcta aggggtgagga ccccaactct agcctcctct 2400  
 tgtctgtctg tectctgttt ctctctttct gctttaaatt caataaaagt 2450  
 gacactgagc aaaaaaaaaa aaaaa 2475

<210> 367  
 <211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 367  
 Met Met Val Ala Leu Arg Gly Ala Ser Ala Leu Leu Val Leu Phe  
 1 5 10 15  
 Leu Ala Ala Phe Leu Pro Pro Pro Gln Cys Thr Gln Asp Pro Ala  
 20 25 30  
 Met Val His Tyr Ile Tyr Gln Arg Phe Arg Val Leu Glu Gln Gly  
 35 40 45  
 Leu Glu Lys Cys Thr Gln Ala Thr Arg Ala Tyr Ile Gln Glu Phe  
 50 55 60  
 Gln Glu Phe Ser Lys Asn Ile Ser Val Met Leu Gly Arg Cys Gln  
 65 70 75  
 Thr Tyr Thr Ser Glu Tyr Lys Ser Ala Val Gly Asn Leu Ala Leu  
 80 85 90  
 Arg Val Glu Arg Ala Gln Arg Glu Ile Asp Tyr Ile Gln Tyr Leu  
 95 100 105  
 Arg Glu Ala Asp Glu Cys Ile Val Ser Glu Asp Lys Thr Leu Ala  
 110 115 120  
 Glu Met Leu Leu Gln Glu Ala Glu Glu Lys Lys Ile Arg Thr  
 125 130 135  
 Leu Leu Asn Ala Ser Cys Asp Asn Met Leu Met Gly Ile Lys Ser  
 140 145 150  
 Leu Lys Ile Val Lys Lys Met Met Asp Thr His Gly Ser Trp Met  
 155 160 165  
 Lys Asp Ala Val Tyr Asn Ser Pro Lys Val Tyr Leu Leu Ile Gly  
 170 175 180  
 Ser Arg Asn Asn Thr Val Trp Glu Phe Ala Asn Ile Arg Ala Phe  
 185 190 195  
 Met Glu Asp Asn Thr Lys Pro Ala Pro Arg Lys Gln Ile Leu Thr  
 200 205 210

Leu	Ser	Trp	Gln	Gly	Thr	Gly	Gln	Val	Ile	Tyr	Lys	Gly	Phe	Leu	215	220	225
Phe	Phe	His	Asn	Gln	Ala	Thr	Ser	Asn	Glu	Ile	Ile	Lys	Tyr	Asn	230	235	240
Leu	Gln	Lys	Arg	Thr	Val	Glu	Asp	Arg	Met	Leu	Leu	Pro	Gly	Gly	245	250	255
Val	Gly	Arg	Ala	Leu	Val	Tyr	Gln	His	Ser	Pro	Ser	Thr	Tyr	Ile	260	265	270
Asp	Leu	Ala	Val	Asp	Glu	His	Gly	Leu	Trp	Ala	Ile	His	Ser	Gly	275	280	285
Pro	Gly	Thr	His	Ser	His	Leu	Val	Leu	Thr	Lys	Ile	Glu	Pro	Gly	290	295	300
Thr	Leu	Gly	Val	Glu	His	Ser	Trp	Asp	Thr	Pro	Cys	Arg	Ser	Gln	305	310	315
Asp	Ala	Glu	Ala	Ser	Phe	Leu	Leu	Cys	Gly	Val	Leu	Tyr	Val	Val	320	325	330
Tyr	Ser	Thr	Gly	Gly	Gln	Gly	Pro	His	Arg	Ile	Thr	Cys	Ile	Tyr	335	340	345
Asp	Pro	Leu	Gly	Thr	Ile	Ser	Glu	Glu	Asp	Leu	Pro	Asn	Leu	Phe	350	355	360
Phe	Pro	Lys	Arg	Pro	Arg	Ser	His	Ser	Met	Ile	His	Tyr	Asn	Pro	365	370	375
Arg	Asp	Lys	Gln	Leu	Tyr	Ala	Trp	Asn	Glu	Gly	Asn	Gln	Ile	Ile	380	385	390
Tyr	Lys	Leu	Gln	Thr	Lys	Arg	Lys	Leu	Pro	Leu	Lys				395	400	

<210> 368  
 <211> 2281  
 <212> DNA  
 <213> Homo sapiens

<400> 368  
 gggcgccgcg gtactcacta gctgaggtgg cagtgggtcc accaacaatgg 50  
 agctctcgca gatgtcggag ctcatggggc tgcggtgtt gcttgggtcg 100  
 ctggccctga tggcgacggc ggcggtagcg cggggtggc tgcgcgcggg 150  
 ggagagagag agcggcgcgc ccgcctgcc aaaaagcaat ggatttccac 200  
 ctgacaaaatc ttcggtatcc aagaagcaga aacaatatca gcggtatcgg 250  
 aaggagaagc ctcaacaaca caacttcacc caccgcctcc tggctgcagc 300  
 totgaagagc cacagcggga acatatcttg catggacttt agcagcaatg 350  
 gcaaatacct ggctacctgt gcagatgata gcaccatccg catctggagc 400  
 accaaggact tcctgcagcg agagcaccgc agcatgagag ccaacgtgga 450

gctggaccac gccaccctgg tgcgcttcag ccctgactgc agagccttca 500  
tctgtctggt ggccaacggg gacaccctcc gtgtcttcaa gatgaccaag 550  
cgggaggatg ggggctacac cttcacagcc accccagagg acttccctaa 600  
aaagcacaag gcgcctgtca tcgacattgg cattgtctaac acagggaagt 650  
ttatcatgac tgcctccagt gacaccactg tcctcatctg gagcctgaag 700  
ggccaagtgc tgtctacat caacaccaac cagatgaaca acacacacgc 750  
tgctgtatct ccctgtggca gatttgtagc ctctgttggc ttcaccccag 800  
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gtggtgcgag ccttcgaact aaaggccac tccgcgctg tgcactcgtt 900  
tgctttctcc aacgactcac ggaggatggc tctgtctcc aaggatggtg 950  
catgaaact gtgggacaca gatgtggaat acaagaagaa gcaggacccc 1000  
tacttgtga agacaggccg ctttgaagag gcggcggggtg ccgcgcctg 1050  
ccgcctggcc ctctcccca acgcccaggt cttggccttg gccagtggca 1100  
gtagtattca tctctacaat acccgcgggg gcgagaagga ggagtgttt 1150  
gagcgggtcc atggcgagt tatcgccaac ttgtccttg acatcactgg 1200  
ccgtttctg gcctcctgtg gggaccgggc ggtgcgctg tttcacaaca 1250  
ctctggcca ccgagccatg gtggaggaga tgcagggcca cctgaagcgg 1300  
gcctccaacg agagcacccg ccagaggctg cagcagcagc tgaccaggcc 1350  
ccaagagacc ctgaagagcc tgggtgccct gaagaagtga ctctgggagg 1400  
gcccggcgca gaggattgag gaggagggat ctggcctcct catggcactg 1450  
ctgccatctt tcctccagg tggaagcctt tcagaaggag tctcctggtt 1500  
ttcttactg tgccctgct tcttccatt gaaactactc ttgtctactt 1550  
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gtgtctttct tcctccagg ccagtggtg ggaatctgtc cccacctggc 1650  
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tcctctctgt gaactccttg caaagatgat atgaggctaa gagaatatca 1950  
agtccccagg tctggaagaa aagtagaaaa gagtagtact attgtccaat 2000  
gtcatgaaa tggtaaaagt gggaaccagt gtgctttgaa acaaattag 2050





Gly Arg Phe Val Ala Ser Cys Gly Phe Thr Pro Asp Val Lys Val  
 245 250 255  
 Trp Glu Val Cys Phe Gly Lys Lys Gly Glu Phe Gln Glu Val Val  
 260 265 270  
 Arg Ala Phe Glu Leu Lys Gly His Ser Ala Val His Ser Phe  
 275 280 285  
 Ala Phe Ser Asn Asp Ser Arg Arg Met Ala Ser Val Ser Lys Asp  
 290 295 300  
 Gly Thr Trp Lys Leu Trp Asp Thr Asp Val Glu Tyr Lys Lys Lys  
 305 310 315  
 Gln Asp Pro Tyr Leu Leu Lys Thr Gly Arg Phe Glu Glu Ala Ala  
 320 325 330  
 Gly Ala Ala Pro Cys Arg Leu Ala Leu Ser Pro Asn Ala Gln Val  
 335 340 345  
 Leu Ala Leu Ala Ser Gly Ser Ser Ile His Leu Tyr Asn Thr Arg  
 350 355 360  
 Arg Gly Glu Lys Glu Glu Cys Phe Glu Arg Val His Gly Glu Cys  
 365 370 375  
 Ile Ala Asn Leu Ser Phe Asp Ile Thr Gly Arg Phe Leu Ala Ser  
 380 385 390  
 Cys Gly Asp Arg Ala Val Arg Leu Phe His Asn Thr Pro Gly His  
 395 400 405  
 Arg Ala Met Val Glu Glu Met Gln Gly His Leu Lys Arg Ala Ser  
 410 415 420  
 Asn Glu Ser Thr Arg Gln Arg Leu Gln Gln Gln Leu Thr Gln Ala  
 425 430 435  
 Gln Glu Thr Leu Lys Ser Leu Gly Ala Leu Lys Lys  
 440 445

<210> 370  
 <211> 1415  
 <212> DNA  
 <213> Homo sapiens

<400> 370  
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 catctaagca ggcagtgttt tgccttcacc ccaagtgacc atgagagggtg 100  
 ccacgcgagt ctcaatcatg ctctccttag taactgtgtc tgactgtgct 150  
 gtgatcacag gggcctgtga gcgggatgtc cagtgtgggg caggcacctg 200  
 ctgtgccatc agcctgtggc ttcgagggct gcgggatgtc accccgctgg 250  
 ggcgggaagg cgaggagtgc caccocggca gccacaaggt ccccttcttc 300  
 aggaaacgca agcaccacac ctgtccttgc ttgcccaacc tgctgtgctc 350  
 caggttcccc gacggcaggt accgctgctc catggacttg aagaacatca 400

atttttaggc gcttgccctgg tctcaggata cccaccatcc ttttctgag 450  
 cacagccctgg atttttattt ctgccatgaa acccagctcc catgactctc 500  
 ccagtcacct cactgactac cctgatctct ctgtctagt acgcacatat 550  
 gcacacagcg agacatacct cccatcatga catggtcccc aggctggcct 600  
 gaggatgtca cagcttgagg ctgtggtgtg aaaggtggcc agcctggttc 650  
 tcttccctgc tcaggctgcc agagaggtgg taaatggcag aaaggacatt 700  
 ccccctcccc tccccagtg acctgctctc tttctgggg cctgccccctc 750  
 tccccacatg tatccctcgg tctgaattag acattcctgg gcacaggctc 800  
 ttgggtgcatt tgctcagagt cccaggctcct ggctgaccc tcaggccctt 850  
 cactgtaggt ctgtgaggac caatttggg gtatgttcac ttcctcgtat 900  
 tgggttaact cttagtttca gaccacagac tcaagattgg ctcttccag 950  
 agggcagcag acagtcaccc caaggcaggt gtaggggacc caggggagcc 1000  
 aatcagcccc ctgaagactc tgggtccagt cagcctgtgg ctgtggcct 1050  
 gtgacctgtg accttctgcc agaattgtca tgccctctgag gccccctctt 1100  
 acccacacttt accagttaac cactgaagcc cccaattccc acagcttttc 1150  
 cattaaaatg caaatggtgg tgggtcaatc taatctgata ttgacatat 1200  
 agaaggcaat taggggtgtt ccttaaacaa ctcccttcca aggatcagcc 1250  
 ctgagagcag gttggtgact ttgaggaggg cagtcctctg tccagattgg 1300  
 ggtggggagca agggacaggg agcagggcag gggctgaaag gggcactgat 1350  
 tcagaccagg gaggcaacta cacaccaaca tgctggcttt agaataaaag 1400  
 caccaactga aaaaa 1415

<210> 371  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 371  
 Met Arg Gly Ala Thr Arg Val Ser Ile Met Leu Leu Leu Val Thr  
 1 5 10 15  
 Val Ser Asp Cys Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val  
 20 25 30  
 Gln Cys Gly Ala Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg  
 35 40 45  
 Gly Leu Arg Met Cys Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys  
 50 55 60  
 His Pro Gly Ser His Lys Val Pro Phe Phe Arg Lys Arg Lys His  
 65 70 75

His	Thr	Cys	Pro	Cys	Leu	Pro	Asn	Leu	Leu	Cys	Ser	Arg	Phe	Pro
				80					85					90
Asp	Gly	Arg	Tyr	Arg	Cys	Ser	Met	Asp	Leu	Lys	Asn	Ile	Asn	Phe
				95					100					105

<210> 372  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 372  
 agcgcccggg cgtcggggcg gtaaaaggcc ggcagaaggg aggcacttga 50  
 gaaatgtctt tctccagga cccaagtctt ttcaccatgg ggatgtggtc 100  
 cattggtgca ggagccctgg gggctgtctc ctggcattg ctgcttgcca 150  
 acacagacgt gtttctgtcc aagccccaga aagcgccctt ggagtacctg 200  
 gaggatatag acctgaaaac actggagaag gaaccaagga ctttcaaagc 250  
 aaaggagcta tgggaaaaaa atggagctgt gattatggcc gtgcggaggc 300  
 caggctgttt cctctgtcga gaggaagctg cgtatctgtc ctccctgaaa 350  
 agcatgttgg accagctggg cgtccccctc tatgcagtgg taaaggagca 400  
 catcaggact gaagtgaagg atttccagcc ttatttcaaa ggagaaatct 450  
 tctctggatg aaagaaaaag ttctatggtc cacaaggcgg gaagatgatg 500  
 tttatgggat ttatccgtct gggagtgtgg tacaactctt tccgagcctg 550  
 gaacggaggc ttctctgga accctggaagg agaaggcttc atccttgggg 600  
 gagttttcgt ggtgggatca ggaagcagg gcattctctt tgagcaccca 650  
 gaaaaagaat ttggagacaa agtaaaccta ctttctgttc tggaaagtgc 700  
 taagatgata aaaccacaga ctttggcctc agagaaaaaa tgattgtgtg 750  
 aaactgcccc gctcagggat aaccagggac attcactgtg gttcatggga 800  
 tgtattgttt ccaactcgtg ccctaaggag tgagaaaccc atttatactc 850  
 tactctcagt atggattatt aatgtatctt aatattctgt ttaggcccac 900  
 taaggcaaaa tagcccaaaa acaagactga caaaaactctg aaaaactaat 950  
 gaggattatt aagctaaaac ctgggaataa ggaggcttaa aattgactgc 1000  
 caggctgggt gcagtggctc acacctgtaa tcccagcact ttgggagggc 1050  
 aaggtagca agtcacttga ggtcgggagt tcgagaccag cctgagcaac 1100  
 atggcgaaac cccgtctcta ctaaaaatac aaaaatcacc cgggtgtggg 1150  
 ggcaggcacc tgtagtccca gctaccggg aggctgaggc aggagaatca 1200  
 cttgaacctg ggaggtggag gttcggtgta gctgagatca caccactgta 1250  
 ttccagcctg ggtgactgag actctaacta a 1281

<210> 373  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 373  
 Met Ser Phe Leu Gln Asp Pro Ser Phe Phe Thr Met Gly Met Trp  
 1 5 10 15  
 Ser Ile Gly Ala Gly Ala Leu Gly Ala Ala Leu Ala Leu Leu  
 20 25 30  
 Leu Ala Asn Thr Asp Val Phe Leu Ser Lys Pro Gln Lys Ala Ala  
 35 40 45  
 Leu Glu Tyr Leu Glu Asp Ile Asp Leu Lys Thr Leu Glu Lys Glu  
 50 55 60  
 Pro Arg Thr Phe Lys Ala Lys Glu Leu Trp Glu Lys Asn Gly Ala  
 65 70 75  
 Val Ile Met Ala Val Arg Arg Pro Gly Cys Phe Leu Cys Arg Glu  
 80 85 90  
 Glu Ala Ala Asp Leu Ser Ser Leu Lys Ser Met Leu Asp Gln Leu  
 95 100 105  
 Gly Val Pro Leu Tyr Ala Val Val Lys Glu His Ile Arg Thr Glu  
 110 115 120  
 Val Lys Asp Phe Gln Pro Tyr Phe Lys Gly Glu Ile Phe Leu Asp  
 125 130 135  
 Glu Lys Lys Lys Phe Tyr Gly Pro Gln Arg Arg Lys Met Met Phe  
 140 145 150  
 Met Gly Phe Ile Arg Leu Gly Val Trp Tyr Asn Phe Phe Arg Ala  
 155 160 165  
 Trp Asn Gly Gly Phe Ser Gly Asn Leu Glu Gly Glu Gly Phe Ile  
 170 175 180  
 Leu Gly Gly Val Phe Val Val Gly Ser Gly Lys Gln Gly Ile Leu  
 185 190 195  
 Leu Glu His Arg Glu Lys Glu Phe Gly Asp Lys Val Asn Leu Leu  
 200 205 210  
 Ser Val Leu Glu Ala Ala Lys Met Ile Lys Pro Gln Thr Leu Ala  
 215 220 225  
 Ser Glu Lys Lys

<210> 374  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 374  
 acggaccgag ggttcgaggg agggacacgg accaggaacc tgagctaggt 50  
 caaagacgcc cgggccaggt gcccgcgtcg aggtgccctt ggccggagat 100

gcggtaggag gggcgagcgc gagaagcccc ttctcggcg ctgccaaacc 150  
gccaccacgc ccatggcgaa ccccgggctg gggctgcttc tggcgctggg 200  
cctgcccttc ctgctggccc gctggggcgc agcctggggg caaatacaga 250  
ccactttctg aaatgagaat agcactgttt tgccttcac caccagctcc 300  
agctccgatg gcaacctgcg tccggaagcc atcactgcta tcactgtggt 350  
cttctccctc ttggctgcct tgctcctggc tgtggggctg gcaactgttg 400  
tgcggaagct tcggggagaag cggcagacgg agggcaccta ccggcccagt 450  
agcgaggagc agttctccca tgcagccgag gcccgggccc ctcaggactc 500  
caaggagacg gtgcagggtc gctgcccac ctaggctccc tctcctgcat 550  
ctgtctccct tcattgctgt gtgacctgg ggaagggcag tgcctctctc 600  
gggcagtcag atccaccacg tgcttaatag cagggaagaa ggtacttcaa 650  
agactctgcc cctgaggtca agagaggatg gggctattca cttttatata 700  
tttatataaa attagtagtg agatgtaaaa aaaaaaaaaa aaaa 744

<210> 375

<211> 123

<212> PRT

<213> Homo sapiens

<400> 375

Met	Ala	Asn	Pro	Gly	Leu	Gly	Leu	Leu	Leu	Ala	Leu	Gly	Leu	Pro	1	5	10	15
Phe	Leu	Leu	Ala	Arg	Trp	Gly	Arg	Ala	Trp	Gly	Gln	Ile	Gln	Thr	20	25	30	
Thr	Ser	Ala	Asn	Glu	Asn	Ser	Thr	Val	Leu	Pro	Ser	Ser	Thr	Ser	35	40	45	
Ser	Ser	Ser	Asp	Gly	Asn	Leu	Arg	Pro	Glu	Ala	Ile	Thr	Ala	Ile	50	55	60	
Ile	Val	Val	Phe	Ser	Leu	Leu	Ala	Ala	Leu	Leu	Ala	Val	Gly	65	70	75		
Leu	Ala	Leu	Leu	Val	Arg	Lys	Leu	Arg	Glu	Lys	Arg	Gln	Thr	Glu	80	85	90	
Gly	Thr	Tyr	Arg	Pro	Ser	Ser	Glu	Glu	Gln	Phe	Ser	His	Ala	Ala	95	100	105	
Glu	Ala	Arg	Ala	Pro	Gln	Asp	Ser	Lys	Glu	Thr	Val	Gln	Gly	Cys	110	115	120	
Leu Pro Ile																		

<210> 376

<211> 713

<212> DNA

<213> Homo sapiens

<400> 376  
aatatatcat ctatttatca ttaatcaata atgtattctt ttattccaat 50  
aacatttggg ttttgggatt ttaattttca aacacagcag aatgacattt 100  
tttctgtcac tattattatt gttggtatgt gaagctattt ggagatccaa 150  
ttcaggaagc aacacattgg agaattggcta ctttctatca agaaataaag 200  
agaaccacag tcaaccaca caatcatctt tagaagacag tgtgactcct 250  
accaaagctg tcaaaaccac aggcgaaggc atagttaaag gacggaatct 300  
tgactcaaga gggttaattc ttggtgctga agcctggggc aggggtgtaa 350  
agaaaaacac ttagattcaa tgattgtaaa tttaaggcaa atacacatat 400  
tagtattacc ttagtgaat gtatccctgt catatataca ataagtgtaa 450  
attataagta ccctatgcag ttggctggac agttctaaat tggactttat 500  
taatttttaa aatcagtaac tgatttatca ctggctatgt gcttagatct 550  
acaggagatc atataatttg atacaaataa aagaaaagtg ttctctcccc 600  
ttacagaatt gacattttaa atgcgataca gttagaataag gaaatatgac 650  
attagaaagg aagaatgaca gggagaaagg aaagaaggga aaatgttgcc 700  
aaggaaaaaa aaa 713

<210> 377  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 377  
Met Thr Phe Phe Leu Ser Leu Leu Leu Leu Val Cys Glu Ala  
1 5 10 15  
Ile Trp Arg Ser Asn Ser Gly Ser Asn Thr Leu Glu Asn Gly Tyr  
20 25 30  
Phe Leu Ser Arg Asn Lys Glu Asn His Ser Gln Pro Thr Gln Ser  
35 40 45  
Ser Leu Glu Asp Ser Val Thr Pro Thr Lys Ala Val Lys Thr Thr  
50 55 60  
Gly Lys Gly Ile Val Lys Gly Arg Asn Leu Asp Ser Arg Gly Leu  
65 70 75  
Ile Leu Gly Ala Glu Ala Trp Gly Arg Gly Val Lys Lys Asn Thr  
80 85 90

<210> 378  
<211> 3265  
<212> DNA  
<213> Homo sapiens

<400> 378  
gccaggaata actagagag aacaatgggg ttattcagag gttttgtttt 50

octcttagtt ctgtgcctgc tgcaccagtc aaatacttcc ttcattaagc 100  
 tgaataataa tggctttgaa gatattgtca ttgttataga tccagtgtg 150  
 ccagaagatg aaaaaataat tgaacaaata gaggatatgg tgactacagc 200  
 ttctacgtac ctgtttgaag ccacagaaaa aagatttttt tcaaaaaatg 250  
 tatctatatt aattccctgag aattggaagg aaaatccca gtacaaaagg 300  
 ccaaaacatg aaaaccataa acatgctgat gttatagtgt caccacctac 350  
 actccaggt agagatgaac catacaccga gcagttcaca gaatgtggag 400  
 agaaaggcga atacattcac ttcacccctg acctctact tggaaaaaaa 450  
 caaaatgaat atggaccacc aggcaaaactg tttgtccatg agtgggctca 500  
 cctccgtgtg ggagtgtttg atgagtacaa tgaagatcag cctttctacc 550  
 gtgctaagtc aaaaaaaatc gaagcaacaa ggtgttccgc aggtatctct 600  
 ggtgagaata gagtttataa gtgtcaagga ggcagctgtc ttagtagagc 650  
 atgcagaatt gattctacaa caaaactgta tggaaaagat tgtcaattct 700  
 ttctcgataa agtacaacaa gaaaaagcat ccataatgtt tatgcaaagt 750  
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 tccaagccta caaaacataa agtgcaattt tagaagtaca tgggaggtga 850  
 ttagcaattc tgaggatttt aaaaacacca taccatggt gacaccacct 900  
 cctccacctg tcttctcatt gctgaagatc agtcaaagaa ttgtgtgctt 950  
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 tgggtgggga tggttcactt tgatagtact gccactattg taaataagct 1100  
 aatccaaata aaaagcagtg atgaaagaaa cacactcatg gcaggattac 1150  
 ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200  
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 gctgctgact gatggggagg ataacactgc aagttcttgt attgatgaag 1300  
 tgaaacaaag tggggcoatt gttcatttta ttgctttggg aagagctgct 1350  
 gatgaagcag taatagagat gagcaagata acaggaggaa gtcattttta 1400  
 tgtttcagat gaagctcaga acaatggcct cattgatgct tttggggctc 1450  
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 tgatagtaca gtgggaaagg acacgttctt tctcatcaca tggaaacgac 1600  
 tgccctccag tatttctctc tgggatccca gtggaacaaat aatggaaaaa 1650



ttcacagtgg atgcaacttc caaaatggcc tatctcagta ttccaggaac 1700  
 tgcaaaagtg ggcaacttgg catacaatct tcaagccaaa gcgaaccagg 1750  
 aaacattaac tattacagta acttctcgag cagcaaatc ttctgtgcct 1800  
 ccaatcacag tgaatgctaa aatgaataag gacgtaaaca gtttccccag 1850  
 cccaatgatt gtttacgcag aaattctaca aggatatgta cctgttcttg 1900  
 gagccaatgt gactgctttc attgaatcac agaattggaca tacagaagtt 1950  
 ttggaacttt tggataatgg tgcaggcgct gattctttca agaattgatgg 2000  
 agtctactcc aggtatttta cagcatatac agaaaatggc agatatagct 2050  
 taaaagttcg ggctcatgga ggagcaaaca ctgccaggct aaaattacgg 2100  
 cctccactga atagagccgc gtacatacca ggctgggtag tgaacgggga 2150  
 aattgaagca aacccgccaa gacctgaaat tgatgaggat actcagacca 2200  
 ccttgaggga tttcagccga acagcatcgg gaggtgcatt tgtggtatca 2250  
 caagtcccaa gccttccctt gcctgaccaa taccaccaa gtcaaatcac 2300  
 agaccttgat gccacagttc atgaggataa gattattctt acatggacag 2350  
 caccaggaga taattttgat gttggaaaag ttcaacgtta tatcataaga 2400  
 ataagtgc aa gtattcttga tctaagagac agttttgatg atgctcttca 2450  
 agtaaatact actgatctgt caccaaaagga ggccaactcc aaggaaaact 2500  
 ttgcatttaa accagaaaat atctcagaag aaatgcaac ccacatattt 2550  
 attgccatta aaagtataga taaaagcaat ttgacatcaa aagtatccaa 2600  
 cattgcacaa gtaactttgt ttatccctca agcaaatcct gatgacattg 2650  
 atctctacac tactctact cctactccta ctctgtataa aagtcataat 2700  
 tctggagtta atatttctac gctggtattg tctgtgattg ggtctgttgt 2750  
 aattgttaac tttattttta gtaccaccat ttgaacctta acgaagaaaa 2800  
 aaatcttcaa gttagacctag aagagagttt taaaaaaca aacaatgtaa 2850  
 gtaaaggata tttctgaatc ttaaaattca tcccatgtgt gatcataaac 2900  
 tcataaaaaa aattttaaga tgtoggaaaa ggatactttg attaaataaa 2950  
 aacactcatg gatagtataa aactgtcaag attaaaattt aatagtttca 3000  
 tttattttgt attttatttg taagaaatag tgatgaacaa agatcctttt 3050  
 tcatactgat acctggttgt atattatttg atgcaacagt tttctgaaat 3100  
 gatattttca attgcatcaa gaaattaaaa tcacttatct gagtagtcaa 3150  
 aatacaagta aaggagagca aataacaac atttgaaaa aaaaaaaaaa 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3250

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<211> 919

<213> Hom

Met Gly Leu Phe Arg Gly Phe Val Phe Leu Leu Val Leu Cys Leu  
1 5 10 15

Leu His Gln Ser Asn Thr Ser Phe Ile Lys Leu Asn Asn Asn Gly  
20 25 30

Phe Glu Asp Ile Val Ile Val Ile Asp Pro Ser Val Pro Glu Asp  
35 40 45

Glu Lys Ile Ile Glu Gln Ile Glu Asp Met Val Thr Thr Ala Ser  
50 55 60

Thr Tyr Leu Phe Glu Ala Thr Glu Lys Arg Phe Phe Phe Lys Asn  
65 70 75

Val Ser Ile Leu Ile Pro Glu Asn Trp Lys Glu Asn Pro Gln Tyr  
80 85 90

Lys Arg Pro Lys His Glu Asn His Lys His Ala Asp Val Ile Val  
95 100 105

Ala Pro Pro Thr Leu Pro Gly Arg Asp Glu Pro Tyr Thr Lys Gln  
110 115 120

Phe Thr Glu Cys Gly Glu Lys Gly Glu Tyr Ile His Phe Thr Pro  
125 130 135

Asp Leu Leu Leu Gly Lys Lys Gln Asn Glu Tyr Gly Pro Pro Gly  
140 145 150

Lys Leu Phe Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe  
155 160 165

Asp Glu Tyr Asn Glu Asp Gln Pro Phe Tyr Arg Ala Lys Ser Lys  
170 175 180

Lys Ile Glu Ala Thr Arg Cys Ser Ala Gly Ile Ser Gly Arg Asn  
185 190 195

Arg Val Tyr Lys Cys Gln Gly Gly Ser Cys Leu Ser Arg Ala Cys  
200 205 210

Arg Ile Asp Ser Thr Thr Lys Leu Tyr Gly Lys Asp Cys Gln Phe  
215 220 225

Phe Pro Asp Lys Val Gln Thr Glu Lys Ala Ser Ile Met Phe Met  
230 235 240

Gln Ser Ile Asp Ser Val Val Glu Phe Cys Asn Glu Lys Thr His  
245 250 255

Asn Gln Glu Ala Pro Ser Leu Gln Asn Ile Lys Cys Asn Phe Arg  
260 265 270

Ser Thr Trp Glu Val Ile Ser Asn Ser Glu Asp Phe Lys Asn Thr

	275		280		285
Ile Pro Met Val Thr	290	Pro Pro Pro Pro	Pro Val Phe Ser Leu	Leu	300
Lys Ile Ser Gln Arg	305	Ile Val Cys Leu	Val Leu Asp Lys Ser	Gly	315
Ser Met Gly Gly Lys	320	Asp Arg Leu Asn	Arg Met Asn Gln Ala	Ala	330
Lys His Phe Leu Leu	335	Gln Thr Val Glu	Asn Gly Ser Trp Val	Gly	345
Met Val His Phe Asp	350	Ser Thr Ala Thr	Ile Val Asn Lys Leu	Ile	360
Gln Ile Lys Ser Ser	365	Asp Glu Arg Asn	Thr Leu Met Ala Gly	Leu	375
Pro Thr Tyr Pro Leu	380	Gly Gly Thr Ser	Ile Cys Ser Gly Ile	Lys	390
Tyr Ala Phe Gln Val	395	Ile Gly Glu Leu	His Ser Gln Leu Asp	Gly	405
Ser Glu Val Leu Leu	410	Leu Thr Asp Gly	Glu Asp Asn Thr Ala	Ser	420
Ser Cys Ile Asp Glu	425	Val Lys Gln Ser	Gly Ala Ile Val His	Phe	435
Ile Ala Leu Gly Arg	440	Ala Ala Asp Glu	Ala Val Ile Glu Met	Ser	450
Lys Ile Thr Gly Gly	455	Ser His Phe Tyr	Val Ser Asp Glu Ala	Gln	465
Asn Asn Gly Leu Ile	470	Asp Ala Phe Gly	Ala Leu Thr Ser Gly	Asn	480
Thr Asp Leu Ser Gln	485	Lys Ser Leu Gln	Leu Glu Ser Lys Gly	Leu	495
Thr Leu Asn Ser Asn	500	Ala Trp Met Asn	Asp Thr Val Ile Ile	Asp	510
Ser Thr Val Gly Lys	515	Asp Thr Phe Phe	Leu Ile Thr Trp Asn	Ser	525
Leu Pro Pro Ser Ile	530	Ser Leu Trp Asp	Pro Ser Gly Thr Ile	Met	540
Glu Asn Phe Thr Val	545	Asp Ala Thr Ser	Lys Met Ala Tyr Leu	Ser	555
Ile Pro Gly Thr Ala	560	Lys Val Gly Thr	Trp Ala Tyr Asn Leu	Gln	570
Ala Lys Ala Asn Pro	575	Glu Thr Leu Thr	Ile Thr Val Thr Ser	Arg	585
Ala Ala Asn Ser Ser		Val Pro Pro Ile	Thr Val Asn Ala Lys	Met	

Asn Lys Asp Val	Asn Ser Phe Pro Ser	Pro Met Ile Val Tyr	Ala
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Glu Ile Leu Gln Gly Tyr Val Pro Val	Leu Gly Ala Asn Val Thr		
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Ala Phe Ile Glu Ser Gln Asn Gly His	Thr Glu Val Leu Glu	Leu	
635	640		645
Leu Asp Asn Gly Ala Gly Ala Asp Ser	Phe Lys Asn Asp Gly	Val	
650	655		660
Tyr Ser Arg Tyr Phe Thr Ala Tyr Thr	Glu Asn Gly Arg Tyr	Ser	
665	670		675
Leu Lys Val Arg Ala His Gly Gly Ala Asn	Thr Ala Arg Leu	Lys	
680	685		690
Leu Arg Pro Pro Leu Asn Arg Ala Ala Tyr	Ile Pro Gly Trp	Val	
695	700		705
Val Asn Gly Glu Ile Glu Ala Asn Pro	Pro Arg Pro Glu Ile	Asp	
710	715		720
Glu Asp Thr Gln Thr Thr Leu Glu Asp	Phe Ser Arg Thr Ala	Ser	
725	730		735
Gly Gly Ala Phe Val Val Ser Gln Val	Pro Ser Leu Pro Leu	Pro	
740	745		750
Asp Gln Tyr Pro Pro Ser Gln Ile Thr	Asp Leu Asp Ala Thr	Val	
755	760		765
His Glu Asp Lys Ile Ile Leu Thr Trp	Thr Ala Pro Gly Asp	Asn	
770	775		780
Phe Asp Val Gly Lys Val Gln Arg Tyr	Ile Ile Arg Ile Ser	Ala	
785	790		795
Ser Ile Leu Asp Leu Arg Asp Ser Phe	Asp Asp Ala Leu Gln	Val	
800	805		810
Asn Thr Thr Asp Leu Ser Pro Lys Glu	Ala Asn Ser Lys Glu	Ser	
815	820		825
Phe Ala Phe Lys Pro Glu Asn Ile Ser	Glu Glu Asn Ala Thr	His	
830	835		840
Ile Phe Ile Ala Ile Lys Ser Ile Asp	Lys Ser Asn Leu Thr	Ser	
845	850		855
Lys Val Ser Asn Ile Ala Gln Val Thr	Leu Phe Ile Pro Gln	Ala	
860	865		870
Asn Pro Asp Asp Ile Asp Pro Thr Pro	Thr Pro Thr Pro Thr	Pro	
875	880		885
Thr Pro Asp Lys Ser His Asn Ser Gly	Val Asn Ile Ser Thr	Leu	
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Ser Thr Thr Ile

<210> 380

<211> 3877

<212> DNA

<213> Homo sapiens

<400> 380

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 <212> PRT  
 <213> Homo sapiens

<400> 381  
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 Met Leu Ala Cys Thr Pro Lys Gly Asp Glu Glu Gln Leu Ala Leu  
 35 40 45  
 Pro Arg Ala Asn Ser Pro Thr Gly Lys Glu Gly Tyr Gln Ala Val  
 50 55 60  
 Leu Gln Glu Trp Glu Glu Gln His Arg Asn Tyr Val Ser Ser Leu  
 65 70 75  
 Lys Arg Gln Ile Ala Gln Leu Lys Glu Glu Leu Gln Glu Arg Ser  
 80 85 90

Glu	Gln	Leu	Arg	Asn	Gly	Gln	Tyr	Gln	Ala	Ser	Asp	Ala	Ala	Gly	
				95					100					105	
Leu	Gly	Leu	Asp	Arg	Ser	Pro	Pro	Glu	Lys	Thr	Gln	Ala	Asp	Leu	
				110					115					120	
Leu	Ala	Phe	Leu	His	Ser	Gln	Val	Asp	Lys	Ala	Glu	Val	Asn	Ala	
				125					130					135	
Gly	Val	Lys	Leu	Ala	Thr	Glu	Tyr	Ala	Ala	Val	Pro	Phe	Asp	Ser	
				140					145					150	
Phe	Thr	Leu	Gln	Lys	Val	Tyr	Gln	Leu	Glu	Thr	Gly	Leu	Thr	Arg	
				155					160					165	
His	Pro	Glu	Glu	Lys	Pro	Val	Arg	Lys	Asp	Lys	Arg	Asp	Glu	Leu	
				170					175					180	
Val	Glu	Ala	Ile	Glu	Ser	Ala	Leu	Glu	Thr	Leu	Asn	Asn	Pro	Ala	
				185					190					195	
Glu	Asn	Ser	Pro	Asn	His	Arg	Pro	Tyr	Thr	Ala	Ser	Asp	Phe	Ile	
				200					205					210	
Glu	Gly	Ile	Tyr	Arg	Thr	Glu	Arg	Asp	Lys	Gly	Thr	Leu	Tyr	Glu	
				215					220					225	
Leu	Thr	Phe	Lys	Gly	Asp	His	Lys	His	Glu	Phe	Lys	Arg	Leu	Ile	
				230					235					240	
Leu	Phe	Arg	Pro	Phe	Ser	Pro	Ile	Met	Lys	Val	Lys	Asn	Glu	Lys	
				245					250					255	
Leu	Asn	Met	Ala	Asn	Thr	Leu	Ile	Asn	Val	Ile	Val	Pro	Leu	Ala	
				260					265					270	
Lys	Arg	Val	Asp	Lys	Phe	Arg	Gln	Phe	Met	Gln	Asn	Phe	Arg	Glu	
				275					280					285	
Met	Cys	Ile	Glu	Gln	Asp	Gly	Arg	Val	His	Leu	Thr	Val	Val	Tyr	
				290					295					300	
Phe	Gly	Lys	Glu	Glu	Ile	Asn	Glu	Val	Lys	Gly	Ile	Leu	Glu	Asn	
				305					310					315	
Thr	Ser	Lys	Ala	Ala	Asn	Phe	Arg	Asn	Phe	Thr	Phe	Ile	Gln	Leu	
				320					325					330	
Asn	Gly	Glu	Phe	Ser	Arg	Gly	Lys	Gly	Leu	Asp	Val	Gly	Ala	Arg	
				335					340					345	
Phe	Trp	Lys	Gly	Ser	Asn	Val	Leu	Leu	Phe	Phe	Cys	Asp	Val	Asp	
				350					355					360	
Ile	Tyr	Phe	Thr	Ser	Glu	Phe	Leu	Asn	Thr	Cys	Arg	Leu	Asn	Thr	
				365					370					375	
Gln	Pro	Gly	Lys	Lys	Val	Phe	Tyr	Pro	Val	Leu	Phe	Ser	Gln	Tyr	
				380					385					390	
Asn	Pro	Gly	Ile	Ile	Tyr	Gly	His	His	Asp	Ala	Val	Pro	Pro	Leu	
				395					400					405	



Glu Gln Gln Leu Val Ile Lys Lys Glu Thr Gly Phe Trp Arg Asp  
 410 415 420  
 Phe Gly Phe Gly Met Thr Cys Gln Tyr Arg Ser Asp Phe Ile Asn  
 425 430 435  
 Ile Gly Gly Phe Asp Leu Asp Ile Lys Gly Trp Gly Gly Glu Asp  
 440 445 450  
 Val His Leu Tyr Arg Lys Tyr Leu His Ser Asn Leu Ile Val Val  
 455 460 465  
 Arg Thr Pro Val Arg Gly Leu Phe His Leu Trp His Glu Lys Arg  
 470 475 480  
 Cys Met Asp Glu Leu Thr Pro Glu Gln Tyr Lys Met Cys Met Gln  
 485 490 495  
 Ser Lys Ala Met Asn Glu Ala Ser His Gly Gln Leu Gly Met Leu  
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 Val Phe Arg His Glu Ile Glu Ala His Leu Arg Lys Gln Lys Gln  
 515 520 525  
 Lys Thr Ser Ser Lys Lys Thr  
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 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Synthetic oligonucleotide probe  
  
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 <210> 384  
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 <400> 384  
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<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 385

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<210> 386

<211> 1346

<212> DNA

<213> Homo sapiens

<400> 386

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ctcttcaaag cgatggtagc tttctccatg agaaaagttc ccaacagaga 200

agcaacagaa atttcccatg tctactttg caatgtaacc cagaggggtat 250

cattctggtt tgtggttaca gaccttcaa aaaatcacac cttcctgct 300

gttgaggtgc aatcagccat aagaatgaac aagaaccgga tcaacaatgc 350

cttctttcta aatgaccaa ctctggaatt tttaaaaatc cttccacac 400

ttgcaccacc catggaccca tctgtgccca tctggattat tatatttggt 450

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gcagatcata tattttgttt caccattctt cttttgtaat aaatttgtaa 800

tgtgcttgaa agtgaagaac aatcaattat accaccaaca accactgaaa 850

tcataagcta ttcacgactc aaaatattct aaaatatttt tctgacagta 900

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tttagaaata agatcaggca tatgtatata tttcacact tcaaagacct 1000

aaggaaaaat aaattttcca gtggagaata catataatat ggtgtagaaa 1050

tcattgaaaa tggatccttt ttgaagatca cttatatcac tctgtatatg 1100

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tggaaattact catatacagg gtggaatttt atcctgttat cacaccaaca 1200

gttgattata tattttctga atatcagccc ctaataggac aattctattt 1250

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<212> PRT  
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Ile Arg Thr Ala Leu Gly Asp Lys Ala Tyr Ala Trp Asp Thr Asn  
35 40 45  
Glu Glu Tyr Leu Phe Lys Ala Met Val Ala Phe Ser Met Arg Lys  
50 55 60  
Val Pro Asn Arg Glu Ala Thr Glu Ile Ser His Val Leu Leu Cys  
65 70 75  
Asn Val Thr Gln Arg Val Ser Phe Trp Phe Val Val Thr Asp Pro  
80 85 90  
Ser Lys Asn His Thr Leu Pro Ala Val Glu Val Gln Ser Ala Ile  
95 100 105  
Arg Met Asn Lys Asn Arg Ile Asn Asn Ala Phe Phe Leu Asn Asp  
110 115 120  
Gln Thr Leu Glu Phe Leu Lys Ile Pro Ser Thr Leu Ala Pro Pro  
125 130 135  
Met Asp Pro Ser Val Pro Ile Trp Ile Ile Ile Phe Gly Val Ile  
140 145 150  
Phe Cys Ile Ile Ile Val Ala Ile Ala Leu Leu Ile Leu Ser Gly  
155 160 165  
Ile Trp Gln Arg Arg Arg Lys Asn Lys Glu Pro Ser Glu Val Asp  
170 175 180  
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Pro Ser

<210> 388  
<211> 1371  
<212> DNA  
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 ccaggtgata gatttttgc g 1371

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 <213> Homo sapiens

<400> 389  
 Met Tyr Gly Lys Ser Ser Thr Arg Ala Val Leu Leu Leu Leu Gly  
 1 5 10 15

Ile	Gln	Leu	Thr	Ala	Leu	Trp	Pro	Ile	Ala	Ala	Val	Glu	Ile	Tyr	
				20					25					30	
Thr	Ser	Arg	Val	Leu	Glu	Ala	Val	Asn	Gly	Thr	Asp	Ala	Arg	Leu	
				35					40					45	
Lys	Cys	Thr	Phe	Ser	Ser	Phe	Ala	Pro	Val	Gly	Asp	Ala	Leu	Thr	
				50					55					60	
Val	Thr	Trp	Asn	Phe	Arg	Pro	Leu	Asp	Gly	Gly	Pro	Glu	Gln	Phe	
				65					70					75	
Val	Phe	Tyr	Tyr	His	Ile	Asp	Pro	Phe	Gln	Pro	Met	Ser	Gly	Arg	
				80					85					90	
Phe	Lys	Asp	Arg	Val	Ser	Trp	Asp	Gly	Asn	Pro	Glu	Arg	Tyr	Asp	
				95					100					105	
Ala	Ser	Ile	Leu	Leu	Trp	Lys	Leu	Gln	Phe	Asp	Asp	Asn	Gly	Thr	
				110					115					120	
Tyr	Thr	Cys	Gln	Val	Lys	Asn	Pro	Pro	Asp	Val	Asp	Gly	Val	Ile	
				125					130					135	
Gly	Glu	Ile	Arg	Leu	Ser	Val	Val	His	Thr	Val	Arg	Phe	Ser	Glu	
				140					145					150	
Ile	His	Phe	Leu	Ala	Leu	Ala	Ile	Gly	Ser	Ala	Cys	Ala	Leu	Met	
				155					160					165	
Ile	Ile	Ile	Val	Ile	Val	Val	Val	Leu	Phe	Gln	His	Tyr	Arg	Lys	
				170					175					180	
Lys	Arg	Trp	Ala	Glu	Arg	Ala	His	Lys	Val	Val	Glu	Ile	Lys	Ser	
				185					190					195	
Lys	Glu	Glu	Glu	Arg	Leu	Asn	Gln	Glu	Lys	Lys	Val	Ser	Val	Tyr	
				200					205					210	
Leu	Glu	Asp	Thr	Asp											
				215											

<210> 390

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 390

ccgaggccat cttagggcca gaggc 24

<210> 391

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 391

acaggcagag ccaatggcca gaggc 24

<210> 392  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 392  
 gagaggactg cgggagtttg ggacctttgt gcagacgtgc tcatg 45

<210> 393  
 <211> 471  
 <212> DNA  
 <213> Homo sapiens

<400> 393  
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 agcagtcctg gtactcttgg gagtttccat cttctggtc tctgccaga 100  
 atccgacaac agctgctcca gctgacacgt atccagctac tggctctgct 150  
 gatgatgaag cccctgatgc tgaaccact gctgctgcaa ccactgcgac 200  
 cactgctgct cctaccactg caaccaccgc tgcttctacc actgctcgta 250  
 aagacattcc agttttaccc aaatgggttg gggatctccc gaatggtaga 300  
 gttgtgccct gagatggaat cagcttgagt cttctgcaat tggtcacaac 350  
 tattcatgct tctgtgatt tcatccaact acttaccttg cctacgatat 400  
 ccctttatc tctaatacgt ttattttctt tcaataaaaa aataactatg 450  
 agcaacataa aaaaaaaaaa a 471

<210> 394  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 394  
 Met Lys Phe Leu Ala Val Leu Val Leu Leu Gly Val Ser Ile Phe  
 1 5 10 15  
 Leu Val Ser Ala Gln Asn Pro Thr Thr Ala Ala Pro Ala Asp Thr  
 20 25 30  
 Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu  
 35 40 45  
 Thr Thr Ala Ala Thr Thr Thr Thr Thr Ala Ala Pro Thr Thr  
 50 55 60  
 Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val  
 65 70 75  
 Leu Pro Lys Trp Val Gly Asp Leu Pro Asn Gly Arg Val Cys Pro  
 80 85 90

<210> 395  
 <211> 25

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 395  
gtccctgat cttcatgtca ccacc 25

<210> 396  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 396  
caggacaca ctctaccatt cgggag 26

<210> 397  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 397  
ccatctttct ggtctctgcc cagaatccga caacagctgc tc 42

<210> 398  
<211> 907  
<212> DNA  
<213> Homo sapiens

<400> 398  
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aaccttggac ccctaggggt ctggatttgc tggtaacaa gataacctga 100  
gggcaggacc ccatagggga atgctaacct ctgcccttc acctgccctg 150  
gtgttcacgg tggcctggtc cctccttgcc gagagagtgt cctgggtcag 200  
ggacgcagag gacgctcaca gactccagcc ctttgttacc gagaggacac 250  
ttggcaaggt ccagcgatgg tccggagtcc acacacagac tggcggcagg 300  
gcaggagggg gacagttctg ttgtgcttgg ttggacagta agagggtctt 350  
ggccagtgca ggggtggggg cggcaaaact cataaagaac cagaggggtct 400  
gggccccgac cacagagtca tctgccagc tcctctgctg ctggccagtg 450  
ggagtggcac gaggtggggc tttgtgccag taaaaccaca ggtcgggatt 500  
gcctcggggc catggtccct gtctagggca gcaattctca acctctctgc 550  
tctcaggacc ccaaagagct ttcattgtat ctattgattt ttaccacatt 600  
agcaattaaa actgagaaat gggccgggca cgggtggctca cgctgtaat 650

[illegible]

<211> 120

<213> Homo sapiens

Met Leu Pro Pro Ala Leu Pro Pro Ala Leu Val Phe Thr Val Ala  
1 5 10 15

Trp Ser Leu Leu Ala Glu Arg Val Ser Trp Val Arg Asp Ala Glu  
20 25 30

Asp Ala His Arg Leu Gln Pro Phe Val Thr Glu Arg Thr Leu Gly  
35 40 45

Lys Val Gln Arg Trp Ser Gly Val His Thr Gln Thr Gly Gly Arg  
50 55 60

Ala Gly Gly Gly Gln Phe Cys Cys Ala Trp Leu Asp Ser Lys Arg  
65 70 75

Val Leu Ala Ser Pro Gly Trp Gly Ala Ala Asn Ser Ile Lys Asn  
80 85 90

Gln Arg Val Trp Ala Pro Ala Thr Glu Ser Ser Ala Gln Leu Leu  
95 100 105

Cys Cys Trp Pro Val Gly Val Ala Arg Gly Gly Ala Leu Cys Gln  
110 115 120

<211> 893

<213> Homo sapiens

gtcatgccag tgcctgctct gtgcctgctc tgggccctgg caatggtgac 50

ccggcctgcc tcagcggccc ccatgggcgg cccagaactg gcacagcatg 100

aggagctgac cctgctcttc catgggaccc tgcagctggg ccaggccctc 150

aacggtgtgt acaggaccac ggagggacgg ctgacaaagg ccaggaacag 200

cctgaggtctc tatggccgca caatagaact cctggggcag gaggtcagcc 250

ggggccggga tgcagcccag gaacttcggg caagcctgtt ggagactcag 300

atggaggagg atattctgca gctgcaggca gaagccacag ctgaagtgct 350

gggggaggtg gccagggcac agaaggtgct acgggacagc gtgcagcggc 400



tagaagtcca gctgaggagc gcctggctgg gccctgccta cggagaattt 450  
 gaggtcttaa aggctcacgc tgacaagcag agccacatcc tatgggcct 500  
 cacaggccac gtgcagcggc agaggcgga gatggtggca cagcagcatc 550  
 ggctgcgcaca gatccaggag agactccaca cagcggcgct cccagcctga 600  
 atctgcctgg atggaactga ggaccaatca tgctgcaagg aacacttoca 650  
 cgccccgtga ggccccgtg caggaggag ctgcctgttc actgggatca 700  
 gccaggcgcc cgggcccccac ttctgagcac agagcagaga cagacgcagg 750  
 cggggacaaa ggcagaggat gtgccccat tggggagggg tggagggaag 800  
 acatgtacc tttcatgcct acacaccct cattaagca gagtcgtggc 850  
 atttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 893

<210> 401  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 401  
 Met Pro Val Pro Ala Leu Cys Leu Leu Trp Ala Leu Ala Met Val  
 1 5 10 15  
 Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala  
 20 25 30  
 Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu  
 35 40 45  
 Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu  
 50 55 60  
 Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu  
 65 70 75  
 Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu  
 80 85 90  
 Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu  
 95 100 105  
 Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala  
 110 115 120  
 Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val  
 125 130 135  
 Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu  
 140 145 150  
 Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala  
 155 160 165  
 Leu Thr Gly His Val Gln Arg Gln Arg Arg Glu Met Val Ala Gln  
 170 175 180  
 Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala

Leu Pro Ala

<210> 402  
 <211> 1915  
 <212> DNA  
 <213> Homo sapiens

<400> 402  
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 tgtaatattgc atcctgtgtga tcaccttact cctggaccag accaccagcc 100  
 acacatccag attaaaagcc aggaagcaca gcaaacgtcg agtgagagac 150  
 aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200  
 tgccttgaag gaaattcaag ccctgcagac agtctgtctc cgaggcacta 250  
 aagttcaca gaaatgctac cttgcttcag aaggtttgaa gcatttccat 300  
 gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatcccacg 350  
 gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400  
 caggtgtcaa tgacttttgg ctgggcatca atgacatggt cacggaaggc 450  
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 tgcacagcct aacggtggca agcgagaaaa ctgtgtcctg ttctcccaat 550  
 cagctcaggg caagtggagt gatgaggcct gtgcagcag caagagatac 600  
 atatgcgagt tcaccatccc taaataggtc ttctcccaat gtgtctctca 650  
 agcaagatc atcataactt ataggttcat gatctctaag atcaagtaaa 700  
 aatcataatt ttactttatt aaaaaattgc aacacaagat caatgtccat 750  
 agcaatatga tagcatcagc caattttgct aacacatttc ttgggatttt 800  
 tgcccttctc ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850  
 gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900  
 tcacttgtac aaaccagtt tgttttcaaa aaatcacagt agcaatgcaa 950  
 ctcatcactc tagaaaagca agcttaggct acctgaaaga ttttcccttg 1000  
 gaagttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050  
 aggtgtata taatccaaaa acttttcagc ctgtgtgtca ttctgtccca 1100  
 tgctggcaat aataccttgt cagccatta cccttatttt gaattgtctc 1150  
 atctcctggt gggacttgta tcttgtctgc catatcagaa cacaaacccc 1200  
 tgaagaggtt ctgatttgat tttttttttt tcttcatgcc tacccttttt 1250  
 ttggaagttt ccagccgcaa ttgaaatga aatgacaagg tgtatatattg 1300

atcaattttc attcccacca ttgcattaca acctctaact taaatgggta 1350  
accctaaggc atatcaaaga agcagattgc atgataaacg gaaatagaaa 1400  
aaaagaacct acatttattt tgcttttagca tccttactct caccttttat 1450  
gagattgaga gtggacttac atttcctttt ttacattttc gtataatttat 1500  
tttttttagc catcattata tgtttaagtc tattatgggc aaccaatcct 1550  
tggaagctga aaactgaatt taaagaatgc tatcttgaa aattgcatac 1600  
gtctgtgcaa ttttttattc tgcctagtgc tattctgctt gtttaactag 1650  
attgtacaaa ataacttcat tgcttaatat caaattacaa agtttagact 1700  
tgaggggaaa tgggcttttt agaagcaaac aattttaaat atattttggt 1750  
cttcaaataa atagtgttta aacattgaat gtgttttgtg aacaatatcc 1800  
cactttgcaa actttaacta cacatgcttg gaattaagtt ttagctgttt 1850  
tcattgtcga ataataaagc ctgaattctg atcaataaaa aaaaaaaaaa 1900  
aaaaaaaaa aaaaa 1915

<210> 403  
<211> 206  
<212> PRT  
<213> Homo sapiens

<400> 403  
Met Ala Gln Gln Ala Cys Pro Arg Ala Met Ala Lys Asn Gly Leu  
1 5 10 15  
Val Ile Cys Ile Leu Val Ile Thr Leu Leu Leu Asp Gln Thr Thr  
20 25 30  
Ser His Thr Ser Arg Leu Lys Ala Arg Lys His Ser Lys Arg Arg  
35 40 45  
Val Arg Asp Lys Asp Gly Asp Leu Lys Thr Gln Ile Glu Lys Leu  
50 55 60  
Trp Thr Glu Val Asn Ala Leu Lys Glu Ile Gln Ala Leu Gln Thr  
65 70 75  
Val Cys Leu Arg Gly Thr Lys Val His Lys Lys Cys Tyr Leu Ala  
80 85 90  
Ser Glu Gly Leu Lys His Phe His Glu Ala Asn Glu Asp Cys Ile  
95 100 105  
Ser Lys Gly Gly Ile Leu Val Ile Pro Arg Asn Ser Asp Glu Ile  
110 115 120  
Asn Ala Leu Gln Asp Tyr Gly Lys Arg Ser Leu Pro Gly Val Asn  
125 130 135  
Asp Phe Trp Leu Gly Ile Asn Asp Met Val Thr Glu Gly Lys Phe  
140 145 150  
Val Asp Val Asn Gly Ile Ala Ile Ser Phe Leu Asn Trp Asp Arg



ggccctgaag gccctgctgg gggccctgac agtgtttggc tgagccgaga 400  
 ctggagcadc tacacctgag gacaagacgc tgcccacccg cgagggttga 450  
 aaaccccgcc gcggggagga ccgtccatcc ccttcccccg gcccccttca 500  
 ataacgtggt ttaagagcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 aaaaaaaaaa aaaaaaaaaa 570

<210> 408  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens

<400> 408  
 Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys  
 1 5 10 15  
 Ser Ser Ala Ala Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala  
 20 25 30  
 Gln Pro Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly  
 35 40 45  
 Thr Leu Ala Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu  
 50 55 60  
 Leu Ser Ser Leu Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser  
 65 70 75  
 Gln Lys Cys Val Ala Glu Leu Gly Pro Gln Ala Val Gly Ala Val  
 80 85 90  
 Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu Thr Val Phe Gly  
 95 100

<210> 409  
 <211> 2089  
 <212> DNA  
 <213> Homo sapiens

<400> 409  
 tgaaggactt ttccaggacc caaggccaca cactggaagt ctgcagctg 50  
 aagggaggca ctcccttgcc tccgcagccg atcacatgaa ggtggtgcc 100  
 agtctctcgc tctccgtcct cctggcacag gtgtggcttg taccggctt 150  
 ggccccagct cctcagtcgc cagagacccc agccctcag aaccagacca 200  
 gcagggtagt gcaggctccc agggaggaag aggaagatga gcaggaggcc 250  
 agcgaggaga aggcoggtga ggaagagaaa gcctggctga tggccagcag 300  
 gcagcagctt gccaaaggaga cttcaaaact cggaattcagc ctgctgcgaa 350  
 agatctccat gaggcacgat ggcaacatgg tcttctctcc atttgcatg 400  
 tccttggcca tgacaggctt gatgctgggg gccacaggcg cgactgaaac 450  
 ccagatcaag agagggtccc acttgaggcg cctgaagccc accaagcccg 500

ggctcctgcc ttccctcttt aagggaactca gagagaccct ctcccgcaac 550  
 ctggaactgg gcctctcaca ggggagtttt gccttcaccc acaaggattt 600  
 tgatgtcaaa gagactttct tcaatttacc caagaggtat ttgtatacag 650  
 agtgcgtgcc tatgaatttt cgcaatgcct cacaggccaa aaggctcatg 700  
 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750  
 tgagattaat cctgaaacca aattaattct tgtggattac atcttgttca 800  
 aagggaatg gttgaccca tttagacctg tcttcacoga agtcgacact 850  
 ttccacctgg acaagtacaa gaccattaag gtgcccata tgtaacgtgc 900  
 aggcaagttt gcctccacct ttgacaagaa ttttcgttgt catgtcctca 950  
 aactgcctca ccaaggaaat gccaccatgc tgggtgtcct catggagaaa 1000  
 atgggtgacc acctgcacct tgaagactac ctgaccacag acttgggtga 1050  
 gacatggctc agaacaatga aaaccagaaa catggaagt ttctttcoga 1100  
 agttcaagct agatcagaag tatgagatgc atgagctgct taggcagatg 1150  
 ggaatcagaa gaattcttc accctttgct gaccttagtg aactctcagc 1200  
 tactggaaga aatctccaag tatccagggg tttacgaaga acagtgtatt 1250  
 aagttgatga aaggggcact gaggcagtgg caggaaatct gtcagaaatt 1300  
 actgcttatt ccatgcctcc tgtcatcaaa gtggaccggc catttcattt 1350  
 catgatctat gaagaaacct ctggaatgct tctgtttctg gcagggtg 1400  
 tgaatccgac tctcctataa ttcaggacat gcataagcac ttcgtgtgtg 1450  
 agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500  
 atggcagggg agagtgttcc ttttgttctt aactagtta ggggtgtctc 1550  
 aaataaatac agtagtccc acttatctga ggggataca ttcaaagacc 1600  
 cccagcagat gctgaaacg gtggacagtg ctgaacctta tatataattt 1650  
 ttctacaca tacataccta tgataaagt taattataa attaggcaca 1700  
 gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaa 1750  
 gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800  
 aagtactca tggcgagga gcatagacag tgtggagaca ttgggcaagg 1850  
 ggagaattca catcctgggt gggacagagc aggacatgc aagattccat 1900  
 cccactactc agaatggcat gctgcttaag acttttagat tgtttatttc 1950  
 tggaattttt catttaatgt ttttggacca tggttgacca tggtaactg 2000  
 agactgcaga aagcaaaacc atggataagg gaggactact aaaaagcat 2050  
 taaattgata catatttttt aaaaaaaaaa aaaaaaaaaa 2089

<210> 410  
 <211> 444  
 <212> PRT  
 <213> Homo sapiens

<400> 410

Met	Lys	Val	Val	Pro	Ser	Leu	Leu	Leu	Ser	Val	Leu	Leu	Ala	Gln	1	5	10	15
Val	Trp	Leu	Val	Pro	Gly	Leu	Ala	Pro	Ser	Pro	Gln	Ser	Pro	Glu	20	25	30	
Thr	Pro	Ala	Pro	Gln	Asn	Gln	Thr	Ser	Arg	Val	Val	Gln	Ala	Pro	35	40	45	
Arg	Glu	Glu	Glu	Glu	Asp	Glu	Gln	Glu	Ala	Ser	Glu	Glu	Lys	Ala	50	55	60	
Gly	Glu	Glu	Glu	Lys	Ala	Trp	Leu	Met	Ala	Ser	Arg	Gln	Gln	Leu	65	70	75	
Ala	Lys	Glu	Thr	Ser	Asn	Phe	Gly	Phe	Ser	Leu	Leu	Arg	Lys	Ile	80	85	90	
Ser	Met	Arg	His	Asp	Gly	Asn	Met	Val	Phe	Ser	Pro	Phe	Gly	Met	95	100	105	
Ser	Leu	Ala	Met	Thr	Gly	Leu	Met	Leu	Gly	Ala	Thr	Gly	Pro	Thr	110	115	120	
Glu	Thr	Gln	Ile	Lys	Arg	Gly	Leu	His	Leu	Gln	Ala	Leu	Lys	Pro	125	130	135	
Thr	Lys	Pro	Gly	Leu	Leu	Pro	Ser	Leu	Phe	Lys	Gly	Leu	Arg	Glu	140	145	150	
Thr	Leu	Ser	Arg	Asn	Leu	Glu	Leu	Gly	Leu	Ser	Gln	Gly	Ser	Phe	155	160	165	
Ala	Phe	Ile	His	Lys	Asp	Phe	Asp	Val	Lys	Glu	Thr	Phe	Phe	Asn	170	175	180	
Leu	Ser	Lys	Arg	Tyr	Phe	Asp	Thr	Glu	Cys	Val	Pro	Met	Asn	Phe	185	190	195	
Arg	Asn	Ala	Ser	Gln	Ala	Lys	Arg	Leu	Met	Asn	His	Tyr	Ile	Asn	200	205	210	
Lys	Glu	Thr	Arg	Gly	Lys	Ile	Pro	Lys	Phe	Asp	Glu	Ile	Asn		215	220	225	
Pro	Glu	Thr	Lys	Leu	Ile	Leu	Val	Asp	Tyr	Ile	Leu	Phe	Lys	Gly	230	235	240	
Lys	Trp	Leu	Thr	Pro	Phe	Asp	Pro	Val	Phe	Thr	Glu	Val	Asp	Thr	245	250	255	
Phe	His	Leu	Asp	Lys	Tyr	Lys	Thr	Ile	Lys	Val	Pro	Met	Met	Tyr	260	265	270	
Gly	Ala	Gly	Lys	Phe	Ala	Ser	Thr	Phe	Asp	Lys	Asn	Phe	Arg	Cys	275	280	285	

His Val Leu Lys Leu Pro Tyr Gln Gly Asn Ala Thr Met Leu Val  
 290 295 300  
 Val Leu Met Glu Lys Met Gly Asp His Leu Ala Leu Glu Asp Tyr  
 305 310 315  
 Leu Thr Thr Asp Leu Val Glu Thr Trp Leu Arg Asn Met Lys Thr  
 320 325 330  
 Arg Asn Met Glu Val Phe Phe Pro Lys Phe Lys Leu Asp Gln Lys  
 335 340 345  
 Tyr Glu Met His Glu Leu Leu Arg Gln Met Gly Ile Arg Arg Ile  
 350 355 360  
 Phe Ser Pro Phe Ala Asp Leu Ser Glu Leu Ser Ala Thr Gly Arg  
 365 370 375  
 Asn Leu Gln Val Ser Arg Val Leu Arg Arg Thr Val Ile Glu Val  
 380 385 390  
 Asp Glu Arg Gly Thr Glu Ala Val Ala Gly Ile Leu Ser Glu Ile  
 395 400 405  
 Thr Ala Tyr Ser Met Pro Pro Val Ile Lys Val Asp Arg Pro Phe  
 410 415 420  
 His Phe Met Ile Tyr Glu Glu Thr Ser Gly Met Leu Leu Phe Leu  
 425 430 435  
 Gly Arg Val Val Asn Pro Thr Leu Leu  
 440

<210> 411  
 <211> 636  
 <212> DNA  
 <213> Homo sapiens

<400> 411  
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 cccagacatg aggaggctcc tccctgtcac cagcctggtg gttgtgctgc 100  
 tgtgggaggc aggtgcagtc ccagcaccca aggtccctat caagatgcaa 150  
 gtcaaaacact ggccctcaga gcaggaccca gagaaggcct ggggcgcccc 200  
 tgtgtgtggag cctcoggaga aggacgacca gctggtggtg ctgttccctg 250  
 tccagaagcc gaaactcttg accaccgagg agaagccacg aggtcagggc 300  
 agggggcccca tccctccagg caccaaggcc tggatggaga ccgaggacac 350  
 cctggggcctg gtccctgagtc ccgagcccga ccatgacacg ctgtaccacc 400  
 ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450  
 ccaaatacc aggtgctcct gggaccggag gaagaccaag accacatcta 500  
 ccacccccag tagggctcca ggggccatca ctgcccccg cctgtcccaa 550  
 ggcccaggct gttgggactg ggaccctccc tacctgccc cagctagaca 600



aataaacccc agcaggcaaa aaaaaaaaaa aaaaaa 636

<210> 412

<211> 151

<212> PRT

<213> Homo sapiens

<400> 412

Met Arg Arg Leu Leu Val Thr Ser Leu Val Val Val Leu Leu  
1 5 10 15

Trp Glu Ala Gly Ala Val Pro Ala Pro Lys Val Pro Ile Lys Met  
20 25 30

Gln Val Lys His Trp Pro Ser Glu Gln Asp Pro Glu Lys Ala Trp  
35 40 45

Gly Ala Arg Val Val Glu Pro Pro Glu Lys Asp Asp Gln Leu Val  
50 55 60

Val Leu Phe Pro Val Gln Lys Pro Lys Leu Leu Thr Thr Glu Glu  
65 70 75

Lys Pro Arg Gly Gln Gly Arg Gly Pro Ile Leu Pro Gly Thr Lys  
80 85 90

Ala Trp Met Glu Thr Glu Asp Thr Leu Gly Arg Val Leu Ser Pro  
95 100 105

Glu Pro Asp His Asp Ser Leu Tyr His Pro Pro Pro Glu Glu Asp  
110 115 120

Gln Gly Glu Glu Arg Pro Arg Leu Trp Val Met Pro Asn His Gln  
125 130 135

Val Leu Leu Gly Pro Glu Glu Asp Gln Asp His Ile Tyr His Pro  
140 145 150

Gln

<210> 413

<211> 1176

<212> DNA

<213> Homo sapiens

<400> 413

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tggagtacag atgaggctaa tacttacttc aaggaatgga cctgttcttc 200

gtctccatct ctgccagaa gctgcaagga aatcaaagac gaatgtccta 250

gtgcatttga tggcctgtat tttctccgca ctgagaatgg tggtatctac 300

cagaccttct gtgacatgac ctctgggggt ggcggctgga ccctgggtggc 350

cagcgtgcat gagaatgaca tgcgtgggaa gtgcacgggt gccgatcgct 400





ccacaatagt tcaagtacat ctgctgcttc atcagtaaca atcacaacaa 550  
 ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600  
 gttggtggta ttgtattaac gctgggagtt ttatctattc ttacattgg 650  
 atgcaaaatg tattactcaa gaagaggcat tcggtatcga accatagatg 700  
 aacatgatgc catcatttaa ggaaatccat ggaccaagga tggaatacag 750  
 attgatgctg cccatcaaat taattttggt ttattaatag tttaaaacaa 800  
 tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850  
 gtattacgta aatatgtaaa gattcttcaa ggtaacaagg gtttgggttt 900  
 tgaaataaac atctggatct tatagaccgt tcatacaatg gttttagcaa 950  
 gttcatagta agacaaacaa gtccatctct ttttttttgg ctgggggtggg 1000  
 ggcattggtc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050  
 agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100  
 tttgggtatc tttttagct cacataaaga acttcagtgc ttttcagagc 1150  
 tggatatatc ttaattacta atgccacaca gaaattatac aatcaaaacta 1200  
 gatctgaagc ataatttaag aaaaacatca acattttttg tgctttaaac 1250  
 tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416  
 <211> 208  
 <212> PRT  
 <213> Homo sapiens

<400> 416  
 Met Gly Leu Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly  
 1 5 10 15  
 Thr Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala  
 20 25  
 Ala Met Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His  
 35 40 45  
 Asn Ser Ser Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser  
 50 55 60  
 Asp His Thr Asn Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr  
 65 70 75  
 Ser Val Ala Ser Asp Ser Ser Asn Thr Thr Val Thr Thr Met Lys  
 80 85 90  
 Pro Thr Ala Ala Ser Asn Thr Thr Thr Pro Gly Met Val Ser Thr  
 95 100 105  
 Asn Met Thr Ser Thr Thr Leu Lys Ser Thr Pro Lys Thr Thr Ser  
 110 115 120  
 Val Ser Gln Asn Thr Ser Gln Ile Ser Thr Ser Thr Met Thr Val

	125		130		135
Thr His Asn Ser Ser Val Thr Ser Ala Ala Ser Ser Val Thr Ile					
	140		145		150
Thr Thr Thr Met His Ser Glu Ala Lys Lys Gly Ser Lys Phe Asp					
	155		160		165
Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr Leu Gly Val Leu					
	170		175		180
Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser Arg Arg Gly					
	185		190		195
Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile					
	200		205		

<210> 417

<211> 1728

<212> DNA

<213> Homo sapiens

<400> 417

cagccggggtc ccaagcctgt gcttgagcct gagcctgagc ctgagcccca 50  
gcccgggagcc ggtgcgggg gctccgggct gtgggaccgc tgggccccca 100  
gcgatggcga cctgtgggg aggccttctt cggtcttgct ccttgctcag 150  
cctgtcgtgc ctggcgcttt ccgtgctgct gctggcgagc ctgtcagacg 200  
ccgccaagaa ttctgaggat gtcagatgta aatgtatctg cctccctat 250  
aaagaaaatt ctgggcataa ttataataag aacatatctc agaaagattg 300  
tgattgcctt catgttgttg agcccatgcc tgtgcggggg cctgatgtag 350  
aagcatactg tctacgctgt gaatgcaaat atgaagaaa aagctctgtc 400  
acaatcaagg ttaccattat aatttatctc tccattttgg gccttctact 450  
tctgtacatg gtatatctta ctctggttga gcccatactg aagaggcgcc 500  
tctttggaca tgcacagttg atacagagtg atgatgatat tggggatcac 550  
cagccttttg caaatgcaca cgatgtgcta gcccgctccc gcagtcgagc 600  
caacgtgctg aacaaggtag aatatgcaca gcagcgctgg aagcttcaag 650  
tccaagagca gcgaaagtct gtctttgacc ggcattgtgt cctcagctaa 700  
ttgggaattg aattcaaggt gactagaaag aaacaggcag acaactggaa 750  
agaactgact gggttttgct gggtttcatt ttaataacct gttgatttca 800  
ccaactgttg ctggaagatt caaaactgga agcaaaaaat tgcttgattt 850  
ttttttcttg ttaacgtaat aatagagaca tttttaaaag cacacagctc 900  
aaagtcagcc aataagtcct ttccctattg tgacttttac taataaaaaa 950  
aaatctgcct gtaaattatc ttgaagtcct ttacctggaa caagcactct 1000

ctttttcacc acatagtttt aacttgactt tcaagataat tttcagggtt 1050  
 tttgtgttg ttgtttttt tttgtttgt ttggtgggag aggggaggga 1100  
 tgcctgggaa gtggttaaca acttttttca agtcacttta ctaaacaaac 1150  
 ttttgtaaat agaccttacc ttctattttc gagtttcatt tatattttgc 1200  
 agtgtagcca gcctcatcaa agagctgact tactcatttg acttttgcaac 1250  
 tgactgtatt atctgggtat ctgctgtgtc tgcacttcat ggtaaacggg 1300  
 atctaaaatg cctggtggct ttccacaaaa agcagatttt cttcatgtac 1350  
 tgtgatgtct gatgcaatgc atcctagaac aaactggcca ttgctagtt 1400  
 tactctaaag actaaacata gtcttggtgt gtgtggtctt actcatcttc 1450  
 tagtaccttt aaggacaaat cctaaggact tggacacttg caataaagaa 1500  
 atttttttt aaaccaagc ctccctggat tgataatata tacacatttg 1550  
 tcagcatttc cggctgtgtg gagaggcagc tgtttgagct ccaatatgtg 1600  
 cagctttgaa ctagggtctg ggttgtgggt gcctcttctg aaagtgctaa 1650  
 ccattatttg ataactggct tttttcttcc tatgtcctct ttggaatgta 1700  
 acaataaaaa taatttttga aacatcaa 1728

<210> 418  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 418  
 Met Ala Thr Leu Trp Gly Gly Leu Leu Arg Leu Gly Ser Leu Leu  
 1 5 10 15  
 Ser Leu Ser Cys Leu Ala Leu Ser Val Leu Leu Leu Ala Gln Leu  
 20 25 30  
 Ser Asp Ala Ala Lys Asn Phe Glu Asp Val Arg Cys Lys Cys Ile  
 35 40 45  
 Cys Pro Pro Tyr Lys Glu Asn Ser Gly His Ile Tyr Asn Lys Asn  
 50 55 60  
 Ile Ser Gln Lys Asp Cys Asp Cys Leu His Val Val Glu Pro Met  
 65 70 75  
 Pro Val Arg Gly Pro Asp Val Glu Ala Tyr Cys Leu Arg Cys Glu  
 80 85 90  
 Cys Lys Tyr Glu Glu Arg Ser Ser Val Thr Ile Lys Val Thr Ile  
 95 100 105  
 Ile Ile Tyr Leu Ser Ile Leu Gly Leu Leu Leu Tyr Met Val  
 110 115 120  
 Tyr Leu Thr Leu Val Glu Pro Ile Leu Lys Arg Arg Leu Phe Gly  
 125 130 135

His Ala Gln Leu Ile Gln Ser Asp Asp Asp Ile Gly Asp His Gln  
 140 145 150

Pro Phe Ala Asn Ala His Asp Val Leu Ala Arg Ser Arg Ser Arg  
 155 160 165

Ala Asn Val Leu Asn Lys Val Glu Tyr Ala Gln Gln Arg Trp Lys  
 170 175 180

Leu Gln Val Gln Glu Gln Arg Lys Ser Val Phe Asp Arg His Val  
 185 190 195

Val Leu Ser

<210> 419  
 <211> 681  
 <212> DNA  
 <213> Homo sapiens

<400> 419  
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 tcgctctggc ttctgggctt gtcctggctc tgcctgctgt gctgcccaag 100  
 gccttctctg cccgcgggaa gcggcaggag ccgcccgga cacctgaagg 150  
 aaaattgggc cgattttcac ctatgatgca tcattccagg gcacctcag 200  
 atggccagac tctgggggct cgttttccaga ggtctcacct tgccgaggca 250  
 ttgtcaaagg ccaaaaggatc aggtggaggt gctggaggag gaggtagtgg 300  
 aagaggctcg atggggcaga ttattccaat ctacgggttt gggatttttt 350  
 tatatatact gtacattcta tttaaggtaa gtagaatcat cctaatacata 400  
 ttacatcaat gaaaatctaa tatggcgata aaatcattg tctacattaa 450  
 aacttcttat agttcataaa attattcaa atccatcatc tctttaaatc 500  
 ctgcctcctc ttcatgaggt acttaggata gccattattt cagtttcaca 550  
 taagaatggt tactcaatgt ttaagtgttt tgccccaaaa ttcacaacta 600  
 acaaggcaga actaggactt gaacatggat cttttgttgc ttaatccagt 650  
 gagtgtatca attcaatgca ctccctgcc a 681

<210> 420  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 420  
 Met Ala Tyr Ser Thr Val Gln Arg Val Ala Leu Ala Ser Gly Leu  
 1 5 10 15

Val Leu Ala Leu Ser Leu Leu Leu Pro Lys Ala Phe Leu Ser Arg  
 20 25 30

Gly Lys Arg Gln Glu Pro Pro Pro Thr Pro Glu Gly Lys Leu Gly  
 35 40 45

Arg Phe Pro Pro Met Met His His His Gln Ala Pro Ser Asp Gly  
50 55 60

Gln Thr Pro Gly Ala Arg Phe Gln Arg Ser His Leu Ala Glu Ala  
65 70 75

Phe Ala Lys Ala Lys Gly Ser Gly Gly Gly Ala Gly Gly Gly Gly  
80 85 90

Ser Gly Arg Gly Leu Met Gly Gln Ile Ile Pro Ile Tyr Gly Phe  
95 100 105

Gly Ile Phe Leu Tyr Ile Leu Tyr Ile Leu Phe Lys Val Ser Arg  
110 115 120

Ile Ile Leu Ile Ile Leu His Gln  
125

<210> 421

<211> 1630

<212> DNA

<213> Homo sapiens

<400> 421

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gctcttcctc ttggatttga aagttgagag cagcatgttt tgcccactga 100

aactcatcct gctgccagtg ttactggatt attccttggg cctgaatgac 150

ttgaatgttt ccccgctga gctaaccagtc catgtgggtg attcagctct 200

gatgggagtgt gttttccaga gcacagaaga caaatgtata ttcaagatag 250

actggactct gtcaccagga gagcaegcca aggacgaata tgtgctatc 300

tattactcca atctcagtg gtctattggg cgtctccaga accgcgtaca 350

cttgatgggg gacatcttat gcaatgatgg ctctctcctg ctccaagatg 400

tgcaagaggg tgaccaggga acctatatct gtgaaatccg cctcaaaggg 450

gagagccagg tgttcaagaa ggcggtggta ctgcatgtgc ttccagagga 500

gcccacagag ctcatgggtc atgtgggtgg attgattcag atgggagtgt 550

ttttccagag cacagaagtg aaacacgtga ccaaggtaga atggatatatt 600

tcaggacggc gcgcaaagga ggagattgta tttcgttact accacaaact 650

caggatgtct gtggagtact cccagagctg gggccacttc cagaatcgtg 700

tgaacctggt gggggacatt ttccgcaatg acggttccat catgcttcaa 750

ggagtggagg agtcagatgg aggaaactac acctgcagta tccacctagg 800

gaacctgggt ttcaagaaaa ccatttgtgt gcatgtcagc ccggaagagc 850

ctcgaaact ggtgaccccg gcagccctga ggcctctggt cttgggtggt 900

aatcagttgg tgatcattgt gggaattgtc tgtgccacaa tctgtctgct 950

ccctgttctg atattgatcg tgaagaagac ctgtggaaat aagagttcag 1000



tgaattctac agtcttggtg aagaacacga agaagactaa tccagagata 1050  
 aaagaaaaac cctgccattt tgaagatgt gaaggggaga aacacattta 1100  
 ctccccata attgtacggg aggtgatcga ggaagaagaa ccaagtga 1150  
 aatcagaggc cacctacatg accatgcacc cagtttggcc ttctctgagg 1200  
 tcagatcgga acaactcact tgaaaaaaag tcaggtgggg gaatgccaaa 1250  
 aacacagcaa gctttttgag aagaatggag agtccctca tctcagcagc 1300  
 ggtggagact ctctcctgtg tgtgtcctgg gccactctac cagtgttttc 1350  
 agactccgcg tctccagct gtctcctgt ctctattgtt ggtcaataca 1400  
 ctgaagatgg agaatttga gcttgccaga gagaactggc agctctggag 1450  
 gaacaggcct gctgagggga ggggagcatg gacttgccct ctggagtggg 1500  
 acactggccc tgggaaccag gctgagctga gtggcctcaa acccccggtt 1550  
 ggatcagacc ctctgtggg cagggttctt agtggatgag ttactgggaa 1600  
 gaatcagaga taaaaccaa cccaatcaa 1630

<210> 422

<211> 394

<212> PRT

<213> Homo sapiens

<400> 422

Met	Phe	Cys	Pro	Leu	Lys	Leu	Ile	Leu	Leu	Pro	Val	Leu	Leu	Asp	1	5	10	15
Tyr	Ser	Leu	Gly	Leu	Asn	Asp	Leu	Asn	Val	Ser	Pro	Pro	Glu	Leu	20	25	30	
Thr	Val	His	Val	Gly	Asp	Ser	Ala	Leu	Met	Gly	Cys	Val	Phe	Gln	35	40	45	
Ser	Thr	Glu	Asp	Lys	Cys	Ile	Phe	Lys	Ile	Asp	Trp	Thr	Leu	Ser	50	55	60	
Pro	Gly	Glu	His	Ala	Lys	Asp	Glu	Tyr	Val	Leu	Tyr	Tyr	Tyr	Ser	65	70	75	
Asn	Leu	Ser	Val	Pro	Ile	Gly	Arg	Phe	Gln	Asn	Arg	Val	His	Leu	80	85	90	
Met	Gly	Asp	Ile	Leu	Cys	Asn	Asp	Gly	Ser	Leu	Leu	Leu	Gln	Asp	95	100	105	
Val	Gln	Glu	Ala	Asp	Gln	Gly	Thr	Tyr	Ile	Cys	Glu	Ile	Arg	Leu	110	115	120	
Lys	Gly	Glu	Ser	Gln	Val	Phe	Lys	Lys	Ala	Val	Val	Leu	His	Val	125	130	135	
Leu	Pro	Glu	Glu	Pro	Lys	Glu	Leu	Met	Val	His	Val	Gly	Gly	Leu	140	145	150	
Ile	Gln	Met	Gly	Cys	Val	Phe	Gln	Ser	Thr	Glu	Val	Lys	His	Val				

	155		160		165
Thr Lys Val Glu Trp	Ile Phe Ser Gly	Arg Arg Ala Lys Glu	Glu		
170	170	175	180		
Ile Val Phe Arg Tyr	Tyr His Lys Leu	Arg Met Ser Val Glu	Tyr		
185	185	190	195		
Ser Gln Ser Trp Gly	His Phe Gln Asn	Arg Val Asn Leu Val	Gly		
200	200	205	210		
Asp Ile Phe Arg Asn	Asp Gly Ser Ile	Met Leu Gln Gly Val	Arg		
215	215	220	225		
Glu Ser Asp Gly Gly	Asn Tyr Thr Cys	Ser Ile His Leu Gly	Asn		
230	230	235	240		
Leu Val Phe Lys Lys	Thr Ile Val Leu	His Val Ser Pro Glu	Glu		
245	245	250	255		
Pro Arg Thr Leu Val	Thr Pro Ala Ala	Leu Arg Pro Leu Val	Leu		
260	260	265	270		
Gly Gly Asn Gln Leu	Val Ile Ile Val	Gly Ile Val Cys Ala	Thr		
275	275	280	285		
Ile Leu Leu Leu Pro	Val Leu Ile Leu	Ile Val Lys Lys Thr	Cys		
290	290	295	300		
Gly Asn Lys Ser Ser	Val Asn Ser Thr	Val Leu Val Lys Asn	Thr		
305	305	310	315		
Lys Lys Thr Asn Pro	Glu Ile Lys Glu	Lys Pro Cys His Phe	Glu		
320	320	325	330		
Arg Cys Glu Gly Glu	Lys His Ile Tyr	Ser Pro Ile Ile Val	Arg		
335	335	340	345		
Glu Val Ile Glu Glu	Glu Glu Pro Ser	Glu Lys Ser Glu Ala	Thr		
350	350	355	360		
Tyr Met Thr Met His	Pro Val Trp Pro	Ser Leu Arg Ser Asp	Arg		
365	365	370	375		
Asn Asn Ser Leu Glu	Lys Lys Ser Gly	Gly Gly Met Pro Lys	Thr		
380	380	385	390		
Gln Gln Ala Phe					

<210> 423  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 423  
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 ccactcaca tggttctacc ctactaaaga caggaagatc ataaactgac 100  
 agatactgaa attgtaagag ttggaaacta cattttgcaa agtcattgaa 150  
 ctctgagctc agttgcagta ctcgggaagc catgcaggat gaagatggat 200

acatcacctt aaatattaaa actcggaac cagctctcgt ctccgttggc 250  
 cctgcatcct cctcctgggtg gcgtgtgatg gctttgattc tgctgaccc 300  
 gtgcgtgggg atggttgctg ggctggtggc tctggggatt tggtctgtca 350  
 tgcagcgcaa ttacctacaa gatgagaatg aaaatcgac aggaactctg 400  
 caacaattag caaagcgctt ctgtcaatat gtggtaaac aatcagaact 450  
 aaagggcact ttcaaaggto ataaatgcag ccctgtgac aaaaactgga 500  
 gatattatgg agatagctgc tatgggttct tcaggcacaa cttaacatgg 550  
 gaagagagta agcagtactg cactgacatg aatgctactc tcctgaagat 600  
 tgacaaccgg aacattgtgg agtacatcaa agccaggact catttaattc 650  
 gttgggtcgg attatctcgc cagaagtcga atgaggtctg gaagtgggag 700  
 gatggctcgg ttatctcaga aaatatgttt gagtttttg aagatggaaa 750  
 aggaaatatz aattgtgctt attttcataa tgggaaaatg caccctacct 800  
 tctgtgagaa caaacattat ttaatgtgtg agaggaaggc tggcatgacc 850  
 aaggtggacc aactacctta atgcaaagag gtggacagga taacacagat 900  
 aagggtctta ttgtacaata aaagatatgt atgaatgcat cagtatgtga 950  
 aaaaaaaaaa aaa 963

<210> 424  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 424  
 Met Gln Asp Glu Asp Gly Tyr Ile Thr Leu Asn Ile Lys Thr Arg  
 1 5 10 15  
 Lys Pro Ala Leu Val Ser Val Gly Pro Ala Ser Ser Ser Trp Trp  
 20 25 30  
 Arg Val Met Ala Leu Ile Leu Leu Ile Leu Cys Val Gly Met Val  
 35 40 45  
 Val Gly Leu Val Ala Leu Gly Ile Trp Ser Val Met Gln Arg Asn  
 50 55 60  
 Tyr Leu Gln Asp Glu Asn Glu Asn Arg Thr Gly Thr Leu Gln Gln  
 65 70 75  
 Leu Ala Lys Arg Phe Cys Gln Tyr Val Val Lys Gln Ser Glu Leu  
 80 85 90  
 Lys Gly Thr Phe Lys Gly His Lys Cys Ser Pro Cys Asp Thr Asn  
 95 100 105  
 Trp Arg Tyr Tyr Gly Asp Ser Cys Tyr Gly Phe Phe Arg His Asn  
 110 115 120  
 Leu Thr Trp Glu Glu Ser Lys Gln Tyr Cys Thr Asp Met Asn Ala

	125		130		135
Thr Leu Leu Lys	Ile Asp Asn Arg Asn	Ile Val Glu Tyr Ile	Lys		
	140	145	150		
Ala Arg Thr His	Leu Ile Arg Trp Val	Gly Leu Ser Arg Gln	Lys		
	155	160	165		
Ser Asn Glu Val	Trp Lys Trp Glu Asp	Gly Ser Val Ile Ser	Glu		
	170	175	180		
Asn Met Phe Glu	Phe Leu Glu Asp Gly	Lys Gly Asn Met Asn	Cys		
	185	190	195		
Ala Tyr Phe His	Asn Gly Lys Met His	Pro Thr Phe Cys Glu	Asn		
	200	205	210		
Lys His Tyr Leu	Met Cys Glu Arg Lys	Ala Gly Met Thr Lys	Val		
	215	220	225		
Asp Gln Leu Pro					

<210> 425  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 425  
 tgcagcccct gtgacacaaa ctgg 24

<210> 426  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 426  
 ctgagataac cgagccatcc tcccac 26

<210> 427  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 427  
 gcttcctgac actaaggctg totgctagtc agaattgcot caaaaagag 49

<210> 428  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 428  
 ccaccaatgg cagccccacc t 21  
  
 <210> 429  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 429  
 gactgcctc cctgccca 17  
  
 <210> 430  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 430  
 caaaaagcct ggaagtcttc aaag 24  
  
 <210> 431  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 431  
 cagctggact gcaggtgcta 20  
  
 <210> 432  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 432  
 cagtgagcac agcaagtgtc ct 22  
  
 <210> 433  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 433  
 ggccacctcc ttgagtcttc agttccct 28  
  
 <210> 434  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 434  
 caactactgg ctaaagctgg tgaa 24  
  
 <210> 435  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 435  
 cctttctgta taggtgatac ccaatga 27  
  
 <210> 436  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 436  
 tggccatocc taccagaggc aaaa 24  
  
 <210> 437  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 437  
 ctgaagacga cgcggattac ta 22  
  
 <210> 438  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 438  
 ggcagaaatg ggaggcaga 19  
  
 <210> 439  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 439  
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 <210> 440  
 <211> 22

<212> DNA  
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 <220>  
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 <400> 440  
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 <210> 441  
 <211> 22  
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 <213> Artificial Sequence  
  
 <220>  
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<212> PRT  
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35 40 45  
Phe Ser Arg Val Lys Leu Phe Gly Ser Lys Lys Arg Arg Arg Arg  
50 55 60  
Arg Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Tyr Ser  
65 70 75  
Arg Gln Gly Tyr His Leu Gln Leu Gln Ala Asp Gly Thr Ile Asp  
80 85 90  
Gly Thr Lys Asp Glu Asp Ser Thr Tyr Thr Leu Phe Asn Leu Ile  
95 100 105  
Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Gln Thr Lys  
110 115 120  
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125 130 135  
Leu Phe Thr Pro Glu Cys Lys Phe Lys Glu Ser Val Phe Glu Asn  
140 145 150  
Tyr Tyr Val Thr Tyr Ser Ser Met Ile Tyr Arg Gln Gln Gln Ser  
155 160 165  
Gly Arg Gly Trp Tyr Leu Gly Leu Asn Lys Glu Gly Glu Ile Met  
170 175 180  
Lys Gly Asn His Val Lys Lys Asn Lys Pro Ala Ala His Phe Leu  
185 190 195  
Pro Lys Pro Leu Lys Val Ala Met Tyr Lys Glu Pro Ser Leu His  
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Asp Leu Thr Glu Phe Ser Arg Ser Gly Ser Gly Thr Pro Thr Lys

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His Asn Glu Ser Thr  
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<211> 1471

<212> DNA

<213> Homo Sapien

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tggggggatt tcagtgaaaa aagtggggga tccctccat ttagagtgtg 200  
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ggagccttct ctcacagtg tccccgaggc ctcaccttcc agtccccctg 1400  
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<210> 497

<211> 225

<212> PRT

<213> Homo Sapien

<400> 497

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			155					160					165	
Arg	Ser	Gly	Arg	Ala	Trp	Tyr	Leu	Gly	Leu	Asp	Lys	Glu	Gly	Gln
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Phe	Leu	Pro	Lys	Leu	Leu	Glu	Val	Ala	Met	Tyr	Gln	Glu	Pro	Ser
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gcaagaaccg cgggctctgc aacggcaacc tggtaggatc cttctccaaa 150  
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tctactactc tcaacctcat accagtggga ctacgtgttg ttgccatcca 350  
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ggaacagagt aaagaaaacc aaaccagcag ctcatctttc acctcaagcca 600  
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35 40 45  
Asp Ile Phe Ser Lys Val Arg Ile Phe Gly Leu Lys Lys Arg Arg  
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65 70 75  
Tyr Cys Arg Gln Gly Tyr Tyr Leu Gln Met His Pro Asp Gly Ala  
80 85 90  
Leu Asp Gly Thr Lys Asp Asp Ser Thr Asn Ser Thr Leu Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Lys  
110 115 120

Thr Gly Leu Tyr Ile Ala Met Asn Gly Glu Gly Tyr Leu Tyr Pro  
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 140 145 150  
 Glu Asn Tyr Tyr Val Ile Tyr Ser Ser Met Leu Tyr Arg Gln Gln  
 155 160 165  
 Glu Ser Gly Arg Ala Trp Phe Leu Gly Leu Asn Lys Glu Gly Gln  
 170 175 180  
 Ala Met Lys Gly Asn Arg Val Lys Lys Thr Lys Pro Ala Ala His  
 185 190 195  
 Phe Leu Pro Lys Pro Leu Glu Val Ala Met Tyr Arg Glu Pro Ser  
 200 205 210  
 Leu His Asp Val Gly Glu Thr Val Pro Lys Pro Gly Val Thr Pro  
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 tggaaaccgaa cgcaatggat aaactgattg tgcaagagag aaggaagaac 150  
 gaagcttttt cttgtgagcc ctggatctta acacaaatgt gtatatgtgc 200  
 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250  
 ttgtgtgtgt ctgacataaa taaataatct taaagcagct gttccctctc 300  
 ccacccccaa aaaaaaggat gattggaat gaagaaccga ggattcacia 350  
 agaaaaaagt atgttcattt ttctctataa aggagaaagt gagccaagga 400  
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 gcagattgag gcattgattg ggggagagaa accagcagag cacagtgtga 600  
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 atgcgttttc tctgttctt aaccacctgg atttccatct ggatgttgct 750

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 gcccttctgt gtgctcctgc agcaaccagt tcagcaagggt gatttgtgtt 1000  
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 aacctcacac cgctcataaa actagatgag ctggatcttt ctgggaatca 1500  
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 agtggctcag tgggagacca ccaatgtgac cacctctctc acaccacaga 2300  
 gcacaaggtc gacagagaaa accttcacca tccagtgac tgatataaac 2350

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 aggactgttg aaattattaa tgtggatgat gagattacgg gagacacacc 2550  
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 tgactgggct aaatctactg tttcaaaaaa gtgtctttac aaaaaacaa 2850  
 aaaagaaaag aaattttatt attaaaaatt ctattgtgat ctaaagcaga 2900  
 caaaaa 2906

<210> 501  
 <211> 640  
 <212> PRT  
 <213> Homo Sapien

<400> 501  
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 Pro Arg Phe Asn Arg Ala Leu Phe Asp Pro Leu Leu Val Val Leu  
 20 25 30  
 Leu Ala Leu Gln Leu Leu Val Val Ala Gly Leu Val Arg Ala Gln  
 35 40 45  
 Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val  
 50 55 60  
 Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser  
 65 70 75  
 Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile  
 80 85 90  
 Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu  
 95 100 105  
 Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe  
 110 115 120  
 Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg  
 125 130 135  
 Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu  
 140 145 150  
 Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser  
 155 160 165

Tyr Ala Phe Asn Arg Ile Pro Ser Leu Arg Arg Leu Asp Leu Gly  
 170 175 180  
 Glu Leu Lys Arg Leu Ser Tyr Ile Ser Glu Gly Ala Phe Glu Gly  
 185 190 195  
 Leu Ser Asn Leu Arg Tyr Leu Asn Leu Ala Met Cys Asn Leu Arg  
 200 205 210  
 Glu Ile Pro Asn Leu Thr Pro Leu Ile Lys Leu Asp Glu Leu Asp  
 215 220 225  
 Leu Ser Gly Asn His Leu Ser Ala Ile Arg Pro Gly Ser Phe Gln  
 230 235 240  
 Gly Leu Met His Leu Gln Lys Leu Trp Met Ile Gln Ser Gln Ile  
 245 250 255  
 Gln Val Ile Glu Arg Asn Ala Phe Asp Asn Leu Gln Ser Leu Val  
 260 265 270  
 Glu Ile Asn Leu Ala His Asn Asn Leu Thr Leu Leu Pro His Asp  
 275 280 285  
 Leu Phe Thr Pro Leu His His Leu Glu Arg Ile His Leu His His  
 290 295 300  
 Asn Pro Trp Asn Cys Asn Cys Asp Ile Leu Trp Leu Ser Trp Trp  
 305 310 315  
 Ile Lys Asp Met Ala Pro Ser Asn Thr Ala Cys Cys Ala Arg Cys  
 320 325 330  
 Asn Thr Pro Pro Asn Leu Lys Gly Arg Tyr Ile Gly Glu Leu Asp  
 335 340 345  
 Gln Asn Tyr Phe Thr Cys Tyr Ala Pro Val Ile Val Glu Pro Pro  
 350 355 360  
 Ala Asp Leu Asn Val Thr Glu Gly Met Ala Ala Glu Leu Lys Cys  
 365 370 375  
 Arg Ala Ser Thr Ser Leu Thr Ser Val Ser Trp Ile Thr Pro Asn  
 380 385 390  
 Gly Thr Val Met Thr His Gly Ala Tyr Lys Val Arg Ile Ala Val  
 395 400 405  
 Leu Ser Asp Gly Thr Leu Asn Phe Thr Asn Val Thr Val Gln Asp  
 410 415 420  
 Thr Gly Met Tyr Thr Cys Met Val Ser Asn Ser Val Gly Asn Thr  
 425 430 435  
 Thr Ala Ser Ala Thr Leu Asn Val Thr Ala Ala Thr Thr Thr Pro  
 440 445 450  
 Phe Ser Tyr Phe Ser Thr Val Thr Val Glu Thr Met Glu Pro Ser  
 455 460 465  
 Gln Asp Glu Ala Arg Thr Thr Asp Asn Asn Val Gly Pro Thr Pro  
 470 475 480



Val Val Asp Trp Glu Thr Thr Asn Val Thr Thr Ser Leu Thr Pro  
485 490 495

Gln Ser Thr Arg Ser Thr Glu Lys Thr Phe Thr Ile Pro Val Thr  
500 505 510

Asp Ile Asn Ser Gly Ile Pro Gly Ile Asp Glu Val Met Lys Thr  
515 520 525

Thr Lys Ile Ile Ile Gly Cys Phe Val Ala Ile Thr Leu Met Ala  
530 535 540

Ala Val Met Leu Val Ile Phe Tyr Lys Met Arg Lys Gln His His  
545 550 555

Arg Gln Asn His His Ala Pro Thr Arg Thr Val Glu Ile Ile Asn  
560 565 570

Val Asp Asp Glu Ile Thr Gly Asp Thr Pro Met Glu Ser His Leu  
575 580 585

Pro Met Pro Ala Ile Glu His Glu His Leu Asn His Tyr Asn Ser  
590 595 600

Tyr Lys Ser Pro Phe Asn His Thr Thr Thr Val Asn Thr Ile Asn  
605 610 615

Ser Ile His Ser Ser Val His Glu Pro Leu Leu Ile Arg Met Asn  
620 625 630

Ser Lys Asp Asn Val Gln Glu Thr Gln Ile  
635 640

<210> 502  
<211> 2458  
<212> DNA  
<213> Homo Sapien

<400> 502  
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ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150  
agcaactgag cggggaagcg cccgcgtccg gggatcgga tgtccctctc 200  
ccttctctc ttgctagttt cctactatgt tggaaccttg gggaactcaca 250  
ctgagatcaa gagagtggca gaggaagg toactttgcc ctgccaccat 300  
caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
cgataatgaa gggaaacaaa aagtggatgat cacttactcc agtgcgtcatg 400  
tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
aatttctgag caggagatgc ctccttgag attgaacctc tgaagcccag 500  
tgatgagggc cggtagacct gtaaggttaa gaattcaggc cgctacgtgt 550  
ggagccatgt catcttaaaa gtcttagtga gaccatccaa gcccaagtgt 600

gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650  
 gtcatctctt ggcacagagc ccatttgtta ttactggcag cgaatccgag 700  
 agaaagaggg agaggatgaa cgtctgcctc ccaaatctag gattgactac 750  
 aaccaccctg gacgagttct gctgcagaat cttaccatgt cctactctgg 800  
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 gtgacaggca tagtggctgg agccctgctg attttcctct tgggtgtggc 950  
 gctaataccga aggaagaca aagaaagata tgaggaagaa gagagaccta 1000  
 atgaaattcg agaagatgct gaagctccaa aagcccgctt tgtgaaaccc 1050  
 agctcctctt cctcaggctc tcggagctca cgtctgtggt cttctccac 1100  
 tcgtccaca gcaaatagtg cctcacgcag ccagcgaca ctgtcaactg 1150  
 acgcagcacc ccagccaggg ctggccaccc aggcatacag cctagtggg 1200  
 ccagagtgga gaggttctga accaaagaaa gtccaccatg ctaatctgac 1250  
 caaagcagaa accacacca gcatgatccc cagccagagc agagccttcc 1300  
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 gggctcttgg actcttctcg tcattggagc tcaagtccac agccacacaa 1400  
 ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
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 gattcatctg taaaaaggca tcttattgtg ccttttagacc agagtaaggg 1550  
 aaagcaggag tccaaatcta tttgttgacc aggacctgtg gtgagaagg 1600  
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 taaattttct atgcatttct gcaaaacttat tggattatta gtattcaga 1750  
 cagtcaagca gaaccacag cctattata cctgtctaca ccattgactg 1800  
 agctaaccac ttctaagaaa ctccaaaaaa ggaacatgt gtctctatt 1850  
 ctgacttaac ttcatttgtc ataaggtttg gatattaatt tcaaggggag 1900  
 ttgaaatagt gggagatgga gaagagtga tgagtttctc cactctata 1950  
 ctaatctcac tatttgtatt gagccaaaa taactatgaa aggagacaaa 2000  
 aatttgtgac aaaggattgt gaagagcttt ccattctcat gatgttatga 2050  
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agaaaaagg atctaggaat gctgaaagat tacccaacat accattatag 2250  
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 cgggcatggt gccaggcacc ttaggaaaaa tccagcaggt ggaggttgca 2400  
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 tccgtctc 2458

<210> 503  
 <211> 373  
 <212> PRT  
 <213> Homo Sapien

<400> 503  
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 Thr Leu Gly Thr His Thr Glu Ile Lys Arg Val Ala Glu Glu Lys  
 20 25 30  
 Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp  
 35 40 45  
 Thr Leu Asp Ile Glu Trp Leu Leu Thr Asn Asn Glu Gly Asn Gln  
 50 55 60  
 Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu  
 65 70 75  
 Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu  
 80 85 90  
 Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp  
 95 100 105  
 Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val  
 110 115 120  
 Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro  
 125 130 135  
 Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr  
 140 145 150  
 Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr  
 155 160 165  
 Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro  
 170 175 180  
 Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Leu  
 185 190 195  
 Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala  
 200 205 210  
 Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val  
 215 220 225

Gln	Tyr	Val	Gln	Ser	Ile	Gly	Met	Val	Ala	Gly	Ala	Val	Thr	Gly
				230					235					240
Ile	Val	Ala	Gly	Ala	Leu	Leu	Ile	Phe	Leu	Leu	Val	Trp	Leu	Leu
				245					250					255
Ile	Arg	Arg	Lys	Asp	Lys	Glu	Arg	Tyr	Glu	Glu	Glu	Arg	Pro	
				260					265				270	
Asn	Glu	Ile	Arg	Glu	Asp	Ala	Glu	Ala	Pro	Lys	Ala	Arg	Leu	Val
				275					280					285
Lys	Pro	Ser	Ser	Ser	Ser	Ser	Gly	Ser	Arg	Ser	Ser	Arg	Ser	Gly
				290					295					300
Ser	Ser	Ser	Thr	Arg	Ser	Thr	Ala	Asn	Ser	Ala	Ser	Arg	Ser	Gln
				305					310					315
Arg	Thr	Leu	Ser	Thr	Asp	Ala	Ala	Pro	Gln	Pro	Gly	Leu	Ala	Thr
				320					325					330
Gln	Ala	Tyr	Ser	Leu	Val	Gly	Pro	Glu	Val	Arg	Gly	Ser	Glu	Pro
				335					340					345
Lys	Lys	Val	His	His	Ala	Asn	Leu	Thr	Lys	Ala	Glu	Thr	Thr	Pro
				350					355					360
Ser	Met	Ile	Pro	Ser	Gln	Ser	Arg	Ala	Phe	Gln	Thr	Val		
				365					370					

<210> 504  
 <211> 3060  
 <212> DNA  
 <213> Homo Sapien

<400> 504  
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 ctccgtgtgcg gagtagtgga ttctgccaga agtttgagta tcaactactcc 150  
 tgaagagatg attgaaaaag ccaaagggga aactgcctat ctgccatgca 200  
 aatttacgct tagtcccgaa gaccagggac cgctggacat cgagtggctg 250  
 atatcaccag ctgataatca gaaggtggat caagtgatta ttttatattc 300  
 tggagacaaa atttatgatg actactatcc agatctgaaa ggccgagtac 350  
 attttacgag taatgatctc aaatctgggt atgcatcaat aaatgtaacg 400  
 aatttacaac tgtcagatat tggcacatat cagtgcaaaag tgaaaaaagc 450  
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 caggtgcgag atgttacgtt gatggatctg aagaaattgg aagtgacttt 550  
 aagataaaat gtgaacccaa agaaggttca cttccattac agtatgagtg 600  
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 tgacttcatc tgttatatct gtaaaaaaat cctcttctga gtactctggg 700

acatacagct gtacagtcag aaacagagtg ggctctgac agtgccgtgt 750  
 gcgtctaaac gttgtccctc cttcaataa agctggacta attgcaggag 800  
 ccattatag agctttgctt gctctagcgc tcattggtct tatcatcttt 850  
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 cgatatcagg gaagatgtgc cacctccaaa gagccgtacg tccactgcc 950  
 gaagctacat cggcagtaat cattcatccc tgggggtccat gtctccttcc 1000  
 aacatggaag gatattccaa gactcagtat aaccaagtac caagtgaaga 1050  
 ctttgaacgc actcctcaga gtcgcactct cccacctgct aagttcaagt 1100  
 acccttacaa gactgatgga attacagttg tataaatatg gactactgaa 1150  
 gaactctgaag tattgtatta tttagcttta ttttaggctt ctagttaaaga 1200  
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 aagaacacat ctactttatg caatggcatt agacatgtaa gtcagatgtc 1300  
 atgtcaaaat tagtacgagc caaattcttt gttaaaaaac cctatgtata 1350  
 gtgacactga tagttaaaag atgttttatt atattttcaa taactaccac 1400  
 taacaaattt ttaacttttc atatgcata tctgatattt ggtcttttag 1450  
 gaaaagtatg gttaatagtt gatttttcaa aggaaatttt aaaattctta 1500  
 cgttctgttt aatgtttttg ctatttagtt aaatacattg aagggaata 1550  
 ccggttcttt tcccttttta tgcacacaac agaaacacgc gttgtcatgc 1600  
 ctcaaaactat tttttatttg caactacatg atttcacaca attctcttaa 1650  
 acaacgacat aaaatagatt tcttgtata taaataaact acatacgctc 1700  
 cataaagtaa attctcaaag gtgctagaac aaatcgtcca cttctacagt 1750  
 gttctcgtat ccaacagagt tgatgcacaa tatataaata ctcaagtcca 1800  
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 tatcaatata taaagtgcatt atatttttta agaaagatta ttctcaataa 1900  
 cttctataaa aataagtttg atggtttggc ccatctaact tcaactactat 1950  
 tagtaagaac ttttaacttt taatgtgtag taaggtttat tctacctttt 2000  
 tctcaacatg acaccaacac aatcaaaaac gaagttagtg agtgctaac 2050  
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 taccatgtgc actggaattg ggcgatatgg tttatttttt ctccctgat 2150  
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 cctcgatata ttcttggtt ttttctgggc aaaggggtgc acattggaag 2250  
 aggtggaagt ataagttctg aaatctgtag ggaagagaac acattaagtt 2300

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agtacttctt aaacaacttc aaccaaaaaa gacaaaaaca tggaacgaat 2550  
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ctaagccagg agtcacttgg aggcctttta atacaaaaca ttggagctgg 2650  
aggccattat ccttagcaaa ctaatgcaga aacagaaaaa caactaccgc 2700  
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gatgaaataa tatgtacaac aaatccctgt gacacatgtt tacctatgga 2900  
acaaaccttc atgtgtatcc ctaaacctaa aataaaaagt aaaaaaaaaa 2950  
aaaraaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3000  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3050  
aaaaaaaaaa 3060

<210> 505  
<211> 352  
<212> PRT  
<213> Homo Sapien

<400> 505

Met	Ala	Leu	Leu	Leu	Cys	Phe	Val	Leu	Leu	Cys	Gly	Val	Val	Asp	1	5	10	15
Phe	Ala	Arg	Ser	Leu	Ser	Ile	Thr	Thr	Pro	Glu	Glu	Met	Ile	Glu	20	25	30	
Lys	Ala	Lys	Gly	Glu	Thr	Ala	Tyr	Leu	Pro	Cys	Lys	Phe	Thr	Leu	35	40	45	
Ser	Pro	Glu	Asp	Gln	Gly	Pro	Leu	Asp	Ile	Glu	Trp	Leu	Ile	Ser	50	55	60	
Pro	Ala	Asp	Asn	Gln	Lys	Val	Asp	Gln	Val	Ile	Ile	Leu	Tyr	Ser	65	70	75	
Gly	Asp	Lys	Ile	Tyr	Asp	Asp	Tyr	Tyr	Pro	Asp	Leu	Lys	Gly	Arg	80	85	90	
Val	His	Phe	Thr	Ser	Asn	Asp	Leu	Lys	Ser	Gly	Asp	Ala	Ser	Ile	95	100	105	
Asn	Val	Thr	Asn	Leu	Gln	Leu	Ser	Asp	Ile	Gly	Thr	Tyr	Gln	Cys	110	115	120	
Lys	Val	Lys	Lys	Ala	Pro	Gly	Val	Ala	Asn	Lys	Lys	Ile	His	Leu				

	125		130		135
Val Val Leu Val Lys Pro Ser Gly Ala Arg Cys Tyr Val Asp Gly	140		145		150
Ser Glu Glu Ile Gly Ser Asp Phe Lys Ile Lys Cys Glu Pro Lys	155		160		165
Glu Gly Ser Leu Pro Leu Gln Tyr Glu Trp Gln Lys Leu Ser Asp	170		175		180
Ser Gln Lys Met Pro Thr Ser Trp Leu Ala Glu Met Thr Ser Ser	185		190		195
Val Ile Ser Val Lys Asn Ala Ser Ser Glu Tyr Ser Gly Thr Tyr	200		205		210
Ser Cys Thr Val Arg Asn Arg Val Gly Ser Asp Gln Cys Leu Leu	215		220		225
Arg Leu Asn Val Val Pro Pro Ser Asn Lys Ala Gly Leu Ile Ala	230		235		240
Gly Ala Ile Ile Gly Thr Leu Leu Ala Leu Ala Leu Ile Gly Leu	245		250		255
Ile Ile Phe Cys Cys Arg Lys Lys Arg Arg Glu Glu Lys Tyr Glu	260		265		270
Lys Glu Val His His Asp Ile Arg Glu Asp Val Pro Pro Pro Lys	275		280		285
Ser Arg Thr Ser Thr Ala Arg Ser Tyr Ile Gly Ser Asn His Ser	290		295		300
Ser Leu Gly Ser Met Ser Pro Ser Asn Met Glu Gly Tyr Ser Lys	305		310		315
Thr Gln Tyr Asn Gln Val Pro Ser Glu Asp Phe Glu Arg Thr Pro	320		325		330
Gln Ser Pro Thr Leu Pro Pro Ala Lys Phe Lys Tyr Pro Tyr Lys	335		340		345
Thr Asp Gly Ile Thr Val Val	350				

<210> 506  
 <211> 1705  
 <212> DNA  
 <213> Homo Sapien

<400> 506  
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 tctgattggt gaatggtgaa ggtgcctgtc taacttttct gtaaaaagaa 100  
 ccagctgcct ccagcgagcc agccctcaag catcacttac aggaccagag 150  
 ggacaagaca tgactgtgat gaggagctgc tttcgccaat ttaacaccaa 200  
 gaagaattga ggctgcttg gaggaaggcc aggaggaaca cgagactgag 250

agatgaattt tcaacagagg ctgcaaagcc tgtggacttt agccagaccc 300  
 ttctgcctct ctttgctggc gacagcctct caaatgcaga tggttgtgct 350  
 cccttgccctg ggttttaccg tgcttctctg gagccaggta tcagggggccc 400  
 agggccaaga attccacttt gggccctgcc aagtgaaggg ggtgttccc 450  
 cagaaactgt ggaagcctt ctgggctgtg aaagacacta tgcaagctca 500  
 ggataacatc acgagtgcgc ggctgctgca gcaggaggtt ctgcagaacg 550  
 tctcgtagtc tgagagctgt taccttgccc acacctgctt ggagttctac 600  
 ttgaaaactg ttttcaaaaa ccaccacaat agaacagttg aagtcaggac 650  
 tctgaagtca ttctctactc tggccaacaa ctttgttctc atcgtgtcac 700  
 aactgcaacc cagtcaagaa aatgagatgt tttccatcag agacagtgc 750  
 cacaggcggt ttctgtctatt cgggagagca ttcaaacagt tggacgtaga 800  
 agcagctctg accaaaagccc ttggggaagt ggacattctt ctgacctgga 850  
 tgcagaaatt ctacaagctc tgaatgtcta gaccaggacc tccctccccc 900  
 tggcactggg ttgttccctg tgtcatttca aacagttctc cttctatgac 950  
 tgttcaactg acacttcacg ccttgggcca tgggtcccat tcttgggcca 1000  
 ggattattgt caaagaagtc attctttaag cagcgccagt gacagtcagg 1050  
 gaaggtgcct ctggatgctg tgaagagtct acagagaaga ttcttgtatt 1100  
 tattacaact ctatttaatt aatgtcagta ttcaactga agttctatct 1150  
 atttgtgaga ctgtaagtta catgaaggca gcagaatatt gtgccccatg 1200  
 cttctttacc cctcacaatc cttggcacag tgtggggcag tggatgggtg 1250  
 cttagtaagt acttaataaa ctgtgggtgct ttttttgccc tgtctttgga 1300  
 ttgttaaaaa acagagaggg atgcttggtg gtaaaactga acttcagagc 1350  
 atgaaaaatca cactgtcttc tgatatctgc agggacagag cattgggggtg 1400  
 ggggtaaggt gcatctgttt gaaaagttaa cgataaaatg tggattaaag 1450  
 tgcccagcac aaagcagatc ctcaataaac atttcatttc ccaccacac 1500  
 tcgcccagtc accccatcat ccttttcctt tgggtgccct cttttttttt 1550  
 tatcctagtc attcttcctt aatcttccac ttgagtgtca agctgacctt 1600  
 gctgatgggt acattgcacc tggatgtact atccaatctg tgatgacatt 1650  
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 aaaaa 1705

&lt;210&gt; 507

&lt;211&gt; 206

&lt;212&gt; PRT



<213> Homo Sapien

<400> 507

Met Asn Phe Gln Gln Arg Leu Gln Ser Leu Trp Thr Leu Ala Arg  
1 5 10 15  
Pro Phe Cys Pro Pro Leu Leu Ala Thr Ala Ser Gln Met Gln Met  
20 25 30  
Val Val Leu Pro Cys Leu Gly Phe Thr Leu Leu Trp Ser Gln  
35 40 45  
Val Ser Gly Ala Gln Gly Gln Glu Phe His Phe Gly Pro Cys Gln  
50 55 60  
Val Lys Gly Val Val Pro Gln Lys Leu Trp Glu Ala Phe Trp Ala  
65 70 75  
Val Lys Asp Thr Met Gln Ala Gln Asp Asn Ile Thr Ser Ala Arg  
80 85 90  
Leu Leu Gln Gln Glu Val Leu Gln Asn Val Ser Asp Ala Glu Ser  
95 100 105  
Cys Tyr Leu Val His Thr Leu Leu Glu Phe Tyr Leu Lys Thr Val  
110 115 120  
Phe Lys Asn His His Asn Arg Thr Val Glu Val Arg Thr Leu Lys  
125 130 135  
Ser Phe Ser Thr Leu Ala Asn Asn Phe Val Leu Ile Val Ser Gln  
140 145 150  
Leu Gln Pro Ser Gln Glu Asn Glu Met Phe Ser Ile Arg Asp Ser  
155 160 165  
Ala His Arg Arg Phe Leu Leu Phe Arg Arg Ala Phe Lys Gln Leu  
170 175 180  
Asp Val Glu Ala Ala Leu Thr Lys Ala Leu Gly Glu Val Asp Ile  
185 190 195  
Leu Leu Thr Trp Met Gln Lys Phe Tyr Lys Leu  
200 205

<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

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cggtctcagg agatgtctga tttccacaga catgcaccat atagaagaga 150  
gtttccaaga aatcaaaaga gccatccaag ctaaggacac cttcccaaat 200  
gtcactatcc tgtccacatt ggagactctg cagatcatta agcccttaga 250  
tgtgtgtctg gtgaccaaga acctcctggc gttctacgtg gacaggggtg 300

tcaaggatca tcaggagcca aacccccaaa tcttgagaaa aatcagcagc 350  
 attgccaaact ctttcctcta catgcagaaa actctgcggc aatgtcagga 400  
 acagaggcag tgtcaactgca ggaggaagc caccaatgcc accagagtca 450  
 tccatgacaa ctatgatcag ctggagggtcc acgctgtgc cattaatatcc 500  
 ctgggagagc togacgtctt tctagcctgg attaataaga atcatgaagt 550  
 aatgttctca gcttgatgac aaggaaacctg tatagtgtgc cagggatgaa 600  
 caccctctgt gcggtttact gtgggagaca gccacacctg aaggggaagg 650  
 agatggggaa gggcccttgc agctgaaagt cccactggct ggccctcaggc 700  
 tgtcttattc cgcttgaaaa taggcaaaaa gtctactgtg gtattttaa 750  
 taaactctat ctgctgaaag ggctgcagg ccactctggg agtaaagggc 800  
 tgccttccca tctaatttat tgtaaagtca tatagtcact gtctgtgatg 850  
 tgagccaagt gatactctgt agtacacatt gtactgagtg gttttctga 900  
 ataaattcca tattttacct atga 924

<210> 509  
 <211> 177  
 <212> PRT  
 <213> Homo Sapien

<400> 509  
 Met Lys Leu Gln Cys Val Ser Leu Trp Leu Leu Gly Thr Ile Leu 15  
 1 5 10  
 Ile Leu Cys Ser Val Asp Asn His Gly Leu Arg Arg Cys Leu Ile 30  
 20 25 30  
 Ser Thr Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys 45  
 35 40 45  
 Arg Ala Ile Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu 60  
 50 55 60  
 Ser Thr Leu Glu Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys 75  
 65 70 75  
 Cys Val Thr Lys Asn Leu Leu Ala Phe Tyr Val Asp Arg Val Phe 90  
 80 85 90  
 Lys Asp His Gln Glu Pro Asn Pro Lys Ile Leu Arg Lys Ile Ser 105  
 95 100 105  
 Ser Ile Ala Asn Ser Phe Leu Tyr Met Gln Lys Thr Leu Arg Gln 120  
 110 115 120  
 Cys Gln Glu Gln Arg Gln Cys His Cys Arg Gln Glu Ala Thr Asn 135  
 125 130 135  
 Ala Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu Val His 150  
 140 145 150  
 Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu Asp Val Phe Leu Ala

Trp Ile Asn Lys Asn His Glu Val Met Phe Ser Ala  
170 175

<210> 510  
<211> 996  
<212> DNA  
<213> Homo Sapien

<400> 510  
cccgtagcga gagtgacgta agtaccgcct atagagtcta taggcccact 50  
tggcttcgtt agaacgcggc tacaattaat acataacott atgtatcata 100  
cacatacgat ttaggtgaca ctatagaata acatccactt tgcctttctc 150  
tccacaggtg tccactccca ggtccaactg caccctgggt ctatcgataa 200  
ttctcagacc agccactcag agcagggcac gatgttgggg gcccgctca 250  
ggctctgggt ctgtgccttg tgcagcgtct gcagcatgag cgtctcaga 300  
gcctatccca atgcctcccc actgctcggc tccagctggg gtggcctgat 350  
ccacctgtac acagccacag ccaggaacag ctaccacctg cagatccaca 400  
agaatggcca tgtggatggc gcaccccatc agaccatcta cagtgccttg 450  
atgatcagat cagaggatgc tggctttgtg gtgattacag gtgtgatgag 500  
cagaagatac ctctgcatgg atttcagagg caacattttt ggatcacact 550  
atttcgacct ggagaactgc aggttccaac accagacgct ggaaaacggg 600  
tacgacgtct accactctcc tcagtatcac ttctgggtca gtctgggccc 650  
ggcgaagaga gccttctctg caggcatgaa cccacccccc tactcccagt 700  
ttctgtcccc gaggaacgag atccccctaa ttcaattcaa ccccccata 750  
ccacggcggc acaccgggag cgccgaggac gactcggagc gggaccocct 800  
gaacgtgctg aagccccggg cccggatgac cccggccccg gcctcctgtt 850  
cacaggagct cccgagcgcc gaggacaaca gcccgatggc cagtacccca 900  
ttaggggtgg tcagggggcg tcgagtgaac acgcacgctg ggggaacggg 950  
cccgaaggc tgccgcccct tcgccaagtt catctagggt cgctgg 996

<210> 511  
<211> 251  
<212> PRT  
<213> Homo Sapien

<400> 511  
Met Leu Gly Ala Arg Leu Arg Leu Trp Val Cys Ala Leu Cys Ser  
1 5 10 15  
Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro  
20 25 30

Leu Leu Gly Ser Ser Trp Gly Gly Leu Ile His Leu Tyr Thr Ala  
 35 40 45  
 Thr Ala Arg Asn Ser Tyr His Leu Gln Ile His Lys Asn Gly His  
 50 55 60  
 Val Asp Gly Ala Pro His Gln Thr Ile Tyr Ser Ala Leu Met Ile  
 65 70 75  
 Arg Ser Glu Asp Ala Gly Phe Val Val Ile Thr Gly Val Met Ser  
 80 85 90  
 Arg Arg Tyr Leu Cys Met Asp Phe Arg Gly Asn Ile Phe Gly Ser  
 95 100 105  
 His Tyr Phe Asp Pro Glu Asn Cys Arg Phe Gln His Gln Thr Leu  
 110 115 120  
 Glu Asn Gly Tyr Asp Val Tyr His Ser Pro Gln Tyr His Phe Leu  
 125 130 135  
 Val Ser Leu Gly Arg Ala Lys Arg Ala Phe Leu Pro Gly Met Asn  
 140 145 150  
 Pro Pro Pro Tyr Ser Gln Phe Leu Ser Arg Arg Asn Glu Ile Pro  
 155 160 165  
 Leu Ile His Phe Asn Thr Pro Ile Pro Arg Arg His Thr Arg Ser  
 170 175 180  
 Ala Glu Asp Asp Ser Glu Arg Asp Pro Leu Asn Val Leu Lys Pro  
 185 190 195  
 Arg Ala Arg Met Thr Pro Ala Pro Ala Ser Cys Ser Gln Glu Leu  
 200 205 210  
 Pro Ser Ala Glu Asp Asn Ser Pro Met Ala Ser Asp Pro Leu Gly  
 215 220 225  
 Val Val Arg Gly Gly Arg Val Asn Thr His Ala Gly Gly Thr Gly  
 230 235 240  
 Pro Glu Gly Cys Arg Pro Phe Ala Lys Phe Ile  
 245 250

<210> 512  
 <211> 2015  
 <212> DNA  
 <213> Homo Sapien

<400> 512  
 ggaaaaggta ccgcgcagag acagccagca gttctgtgga gcagcgtgg 50  
 ccggctagga tgggctgtct ctggggtctg gctctgcccc ttttcttctt 100  
 ctgctgggag gttgggtgtct ctgggagctc tgcagggccc agcaccgcga 150  
 gaggcagcac tgcgatgaca acggacgaca cagaagtgcc cgctatgact 200  
 ctgaccacgg gccacgccgc tctggaaact caaacgtgta gcgctgagac 250  
 ctcttctag gctcaaccc cagccggccc cattccagaa gcagagacca 300

ggggagccaa gagaatttcc cctgcaagag agaccaggag ttccacaaaa 350  
 acatctccca acttcatggt gctgatcgcc acctccgtgg agacatcagc 400  
 cgccagtggc agccccgagg gagctggaat gaccacagtt cagaccatca 450  
 caggcagtgta tcccaggagaa gccatctttg acaccctttg caccgatgac 500  
 agctctgaag aggcaaaagac actcacaatg gacatattga cattgggtca 550  
 caccctccca gaagctaagg gcctgtcctc agagagcagt gcctcttcgg 600  
 acggccccca tccagtcac accccgtcac gggcctcaga gaggcagccc 650  
 tcttcgcagc gcccccatcc agtcacacacc ccgtcacggg cctcagagag 700  
 cagcgcctct tccgacggcc cccatccagt catcaccccg tcatgggtccc 750  
 cgggatctga tgtcactctc ctgctgaag ccctgggtgac tgtcacaaac 800  
 atcgagggtta ttaattgcag catcacagaa atagaaacaa caacttcag 850  
 catccctggg gcctcagaca tagatctcat cccacaggaa ggggtgaagg 900  
 cctcgtccac ctccgatcca ccagctctgc ctgactccac tgaagcaaaa 950  
 ccacacatca ctgaggtcac agcctctgcc gagaccctgt ccacagccgg 1000  
 caccacagag tcagctgcac ctcatgccac ggttggggacc ccactcccca 1050  
 ctaacagcgc cacagaaaga gaagtgcacg caccgggggc caccgacctc 1100  
 agtgagagtc tggtoacagt tagcaggaat cccctggaag aaacctcagc 1150  
 cctctctggt gagacacaa gttacgtcaa agtctcagga gcagctccgg 1200  
 totccataga ggtgggtca gcagtgggca aaacaacttc ctttctggg 1250  
 agctctgctt cctcctacag ccctcggaa gcgcctcca agaacttcac 1300  
 cccttcagag acaccgacca tggacatgc aaccaagggg cccttcccca 1350  
 ccagcagga cctcttctt tctgtccctc cgactacaac caacgacgc 1400  
 cgagggacga acagcacctt agccaagatc acaacctcag cgaagaccac 1450  
 gatgaagccc caacagccac gccacgact gcccgacga ggccgaccac 1500  
 agacgtgagt gcaggtgaaa atggaggttt cctcctcctg cggctgagtg 1550  
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 cagcagctcc accgggaact ccacgcccc gcgcctcaat tccaggtctc 1650  
 cttactcgt gtcaggagag gctaacggac atcagctgca gccaggcatg 1700  
 tcccgatgc caaaagaggg tgcgtgccct agcctggggc cccaccgaca 1750  
 gactgcagct gcgttactgt gctgagaggt acccagaagg tcccatgaa 1800  
 gggcagcatg tccaagcccc taaccaccaga tgtggcaaca ggacctcgc 1850  
 tcacatccac cggagtgtat gtatggggag gggcttcacc tgttccaca 1900

gggtgccttg gactcacott ggcacatggt ctgtgtttca gtaaagagag 1950  
 acctgatcac ccatctgtgt gcttccatcc tgcattaaaa ttcaactcagt 2000  
 gtggcccaaa aaaaa 2015

<210> 513  
 <211> 482  
 <212> PRT  
 <213> Homo Sapien

<400> 513  
 Met Gly Cys Leu Trp Gly Leu Ala Leu Pro Leu Phe Phe Phe Cys  
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 Trp Glu Val Gly Val Ser Gly Ser Ser Ala Gly Pro Ser Thr Arg  
 20 25 30  
 Arg Ala Asp Thr Ala Met Thr Thr Asp Asp Thr Glu Val Pro Ala  
 35 40 45  
 Met Thr Leu Ala Pro Gly His Ala Ala Leu Glu Thr Gln Thr Leu  
 50 55 60  
 Ser Ala Glu Thr Ser Ser Arg Ala Ser Thr Pro Ala Gly Pro Ile  
 65 70 75  
 Pro Glu Ala Glu Thr Arg Gly Ala Lys Arg Ile Ser Pro Ala Arg  
 80 85 90  
 Glu Thr Arg Ser Phe Thr Lys Thr Ser Pro Asn Phe Met Val Leu  
 95 100 105  
 Ile Ala Thr Ser Val Glu Thr Ser Ala Ala Ser Gly Ser Pro Glu  
 110 115 120  
 Gly Ala Gly Met Thr Thr Val Gln Thr Ile Thr Gly Ser Asp Pro  
 125 130 135  
 Glu Glu Ala Ile Phe Asp Thr Leu Cys Thr Asp Asp Ser Ser Glu  
 140 145 150  
 Glu Ala Lys Thr Leu Thr Met Asp Ile Leu Thr Leu Ala His Thr  
 155 160 165  
 Ser Thr Glu Ala Lys Gly Leu Ser Ser Glu Ser Ser Ala Ser Ser  
 170 175 180  
 Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg Ala Ser Glu Ser  
 185 190 195  
 Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg  
 200 205 210  
 Ala Ser Glu Ser Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile  
 215 220 225  
 Thr Pro Ser Trp Ser Pro Gly Ser Asp Val Thr Leu Leu Ala Glu  
 230 235 240  
 Ala Leu Val Thr Val Thr Asn Ile Glu Val Ile Asn Cys Ser Ile  
 245 250 255

Thr Glu Ile Glu Thr Thr Thr Ser Ser Ile Pro Gly Ala Ser Asp  
 260 265 270  
 Ile Asp Leu Ile Pro Thr Glu Gly Val Lys Ala Ser Ser Thr Ser  
 275 280 285  
 Asp Pro Pro Ala Leu Pro Asp Ser Thr Glu Ala Lys Pro His Ile  
 290 295 300  
 Thr Glu Val Thr Ala Ser Ala Glu Thr Leu Ser Thr Ala Gly Thr  
 305 310 315  
 Thr Glu Ser Ala Ala Pro His Ala Thr Val Gly Thr Pro Leu Pro  
 320 325 330  
 Thr Asn Ser Ala Thr Glu Arg Glu Val Thr Ala Pro Gly Ala Thr  
 335 340 345  
 Thr Leu Ser Gly Ala Leu Val Thr Val Ser Arg Asn Pro Leu Glu  
 350 355 360  
 Glu Thr Ser Ala Leu Ser Val Glu Thr Pro Ser Tyr Val Lys Val  
 365 370 375  
 Ser Gly Ala Ala Pro Val Ser Ile Glu Ala Gly Ser Ala Val Gly  
 380 385 390  
 Lys Thr Thr Ser Phe Ala Gly Ser Ser Ala Ser Ser Tyr Ser Pro  
 395 400 405  
 Ser Glu Ala Ala Leu Lys Asn Phe Thr Pro Ser Glu Thr Pro Thr  
 410 415 420  
 Met Asp Ile Ala Thr Lys Gly Pro Phe Pro Thr Ser Arg Asp Pro  
 425 430 435  
 Leu Pro Ser Val Pro Pro Thr Thr Thr Asn Ser Ser Arg Gly Thr  
 440 445 450  
 Asn Ser Thr Leu Ala Lys Ile Thr Thr Ser Ala Lys Thr Thr Met  
 455 460 465  
 Lys Pro Gln Gln Pro Arg Pro Arg Leu Pro Gly Arg Gly Arg Pro  
 470 475 480  
 Gln Thr

<210> 514  
 <211> 2284  
 <212> DNA  
 <213> Homo Sapien

<400> 514  
 gcggagcatc cgctgcggtc ctcgccgaga cccccgcgcg gattcgccgg 50  
 tccttcocgc gggcgcgaca gagctgtcct cgcacctgga tggcagcagg 100  
 ggcgccgggg tcctctcgac gccagagaga aatctcatca tctgtgcagc 150  
 cttcttaaa gaaactaaga ccagaggagg gattatcctt gacctttgaa 200  
 gaccaaact aaactgaaat ttaaaatgtt cttcggggga gaagggagct 250

tgacttacac tttggaata atttgcttcc tgacactaag gctgtctgct 300  
 agtcagaatt gcctcaaaa gagtctagaa gatgttgta ttgacatcca 350  
 gtcactctct tctaaggaa tcagaggcaa tgagcccgta tatacttcaa 400  
 ctcaagaaga ctgcattaat tcttgctggt caacaaaaa catatcaggg 450  
 gacaaagcat gtaacttgat gatcttcgac actcgaaaa cagctagaca 500  
 acccaactgc tacctatatt tctgtcccaa cgaggaagcc tgtccattga 550  
 aaccagcaaa aggacttatg agttacagga taattacaga tttccatct 600  
 ttgaccagaa atttgccaag ccaagagtta cccaggaag attctctctt 650  
 acatggccaa ttttcacaag cagtcactcc cctagcccat catcacacag 700  
 attattcaaa gccaccgat atctcatgga gagacacact ttctcagaag 750  
 tttggatcct cagatcacct ggagaaacta tttaagatgg atgaagcaag 800  
 tgcccagctc cttgcttata aggaaaaagg ccattctcag agttcacaat 850  
 tttcctctga tcaagaaata gctcatctgc tgcccgaaaa tgtgagtgcg 900  
 ctcccoagta cgggtggcagt tgccttctca cataccacct cggctactcc 950  
 aaagcccgcc acccttctac ccaccaatgc ttcagtgaca ccttctggga 1000  
 cttccagcc acagctggcc accacagctc cacctgtaac cactgtcact 1050  
 tctcagctc caagaccct catttctaca gtttttacac gggtgctgcg 1100  
 tacactcaa gcaatggcta caacagcagt tctgactacc accttcagg 1150  
 caccctagga ctgaaaagc agcttagaaa ccataccgtt tacagaaatc 1200  
 tccaacttaa cttgaacac agggaatgtg tataacctata ctgcacttcc 1250  
 tatgtcaaat gtggagtctt ccactatgaa taaaactgct tccggggaag 1300  
 gtggggaggc cagtcaggc agttctctcc agggcagtg tccagaaaat 1350  
 cagtcaggcc ttccatttga aaaatggctt cttatcgggt cctgctctt 1400  
 tgggtgctct ttctggtga taggcctctt cctcctgggt agaactctt 1450  
 cggaatcact ccgaggaaa cgttactcaa gactggatta ttgatcaat 1500  
 gggatctatg tggacatcta aggatggaac tcggtgtctc ttaattcatt 1550  
 tagtaaccag aagcccaaat gcaatgagtt tctgctgact tgcctagctt 1600  
 agcaggaggt tgtatttga agacaggaaa atgccccctt ctgcttctt 1650  
 tttttttttt ggagacagag tcttgctctg ttgccaggc tggagtgcag 1700  
 tagcacgac tcggctctca ccgcaacctc cgtctcctgg gttcaagcga 1750  
 ttctctgccc tcagcctcct aagtatctgg gattacagc atgtgccacc 1800  
 acacctgggt gatttttga tttttagtag agacgggggt tcaccatgtt 1850



ggtcagcgctg gtctcaaact cctgacctag tgatccaccc tectcggcct 1900  
 cccaagtgc tgggattaca ggcatgagcc accacagctg gcccccttct 1950  
 gttttatgtt tgggttttga gaaggaatga agtgggaacc aaattaggta 2000  
 attttgggta atctgtctct aaaatattag ctaaaaaaca agctctatgt 2050  
 aaagtaataa agtataattg ccatataaat ttcaaaattc aactggcttt 2100  
 tatgcaaaga aacaggttag gacatctagg ttccaattca ttcacattct 2150  
 tggttccaga taaaatcaac tgtttatatc aatttotaat ggatttgctt 2200  
 ttctttttat atggattcct ttaaaactta ttccagatgt agttccttcc 2250  
 aattaaatat ttgaataaat cttttgttac tcaa 2284

<210> 515  
 <211> 431  
 <212> PRT  
 <213> Homo Sapien

<400> 515  
 Met Phe Phe Gly Gly Glu Gly Ser Leu Thr Tyr Thr Leu Val Ile  
 1 5 10 15  
 Ile Cys Phe Leu Thr Leu Arg Leu Ser Ala Ser Gln Asn Cys Leu  
 20 25 30  
 Lys Lys Ser Leu Glu Asp Val Val Ile Asp Ile Gln Ser Ser Leu  
 35 40 45  
 Ser Lys Gly Ile Arg Gly Asn Glu Pro Val Tyr Thr Ser Thr Gln  
 50 55 60  
 Glu Asp Cys Ile Asn Ser Cys Cys Ser Thr Lys Asn Ile Ser Gly  
 65 70 75  
 Asp Lys Ala Cys Asn Leu Met Ile Phe Asp Thr Arg Lys Thr Ala  
 80 85 90  
 Arg Gln Pro Asn Cys Tyr Leu Phe Phe Cys Pro Asn Glu Glu Ala  
 95 100 105  
 Cys Pro Leu Lys Pro Ala Lys Gly Leu Met Ser Tyr Arg Ile Ile  
 110 115 120  
 Thr Asp Phe Pro Ser Leu Thr Arg Asn Leu Pro Ser Gln Glu Leu  
 125 130 135  
 Pro Gln Glu Asp Ser Leu Leu His Gly Gln Phe Ser Gln Ala Val  
 140 145 150  
 Thr Pro Leu Ala His His His Thr Asp Tyr Ser Lys Pro Thr Asp  
 155 160 165  
 Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys Phe Gly Ser Ser Asp  
 170 175 180  
 His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala Ser Ala Gln Leu  
 185 190 195

Leu Ala Tyr Lys Glu Lys Gly His Ser Gln Ser Ser Gln Phe Ser  
 200 205  
 Ser Asp Gln Glu Ile Ala His Leu Leu Pro Glu Asn Val Ser Ala  
 215 220 225  
 Leu Pro Ala Thr Val Ala Val Ala Ser Pro His Thr Thr Ser Ala  
 230 235 240  
 Thr Pro Lys Pro Ala Thr Leu Leu Pro Thr Asn Ala Ser Val Thr  
 245 250 255  
 Pro Ser Gly Thr Ser Gln Pro Gln Leu Ala Thr Thr Ala Pro Pro  
 260 265 270  
 Val Thr Thr Val Thr Ser Gln Pro Pro Thr Thr Leu Ile Ser Thr  
 275 280 285  
 Val Phe Thr Arg Ala Ala Ala Thr Leu Gln Ala Met Ala Thr Thr  
 290 295 300  
 Ala Val Leu Thr Thr Thr Phe Gln Ala Pro Thr Asp Ser Lys Gly  
 305 310 315  
 Ser Leu Glu Thr Ile Pro Phe Thr Glu Ile Ser Asn Leu Thr Leu  
 320 325 330  
 Asn Thr Gly Asn Val Tyr Asn Pro Thr Ala Leu Ser Met Ser Asn  
 335 340 345  
 Val Glu Ser Ser Thr Met Asn Lys Thr Ala Ser Trp Glu Gly Arg  
 350 355 360  
 Glu Ala Ser Pro Gly Ser Ser Ser Gln Gly Ser Val Pro Glu Asn  
 365 370 375  
 Gln Tyr Gly Leu Pro Phe Glu Lys Trp Leu Leu Ile Gly Ser Leu  
 380 385 390  
 Leu Phe Gly Val Leu Phe Leu Val Ile Gly Leu Val Leu Leu Gly  
 395 400 405  
 Arg Ile Leu Ser Glu Ser Leu Arg Arg Lys Arg Tyr Ser Arg Leu  
 410 415 420  
 Asp Tyr Leu Ile Asn Gly Ile Tyr Val Asp Ile  
 425 430

<210> 516  
 <211> 2749  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> unsure  
 <222> 1869, 1887  
 <223> unknown base

<400> 516  
 ctcccacggt gtccagcgcc cagaatgcgg cttctgggtcc tgctatgggg 50  
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gcgggttcga aggggacact gtgtccctgc agtgcaccta caggggaagag 150  
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 Asp Thr Val Ser Leu Gln Cys Thr Tyr Arg Glu Glu Leu Arg Asp  
 35 40 45  
 His Arg Lys Tyr Trp Cys Arg Lys Gly Gly Ile Leu Phe Ser Arg  
 50 55 60  
 Cys Ser Gly Thr Ile Tyr Ala Glu Glu Gly Gln Glu Thr Met  
 65 70 75

Lys	Gly	Arg	Val	Ser	Ile	Arg	Asp	Ser	Arg	Gln	Glu	Leu	Ser	Leu	80	85	90
Ile	Val	Thr	Leu	Trp	Asn	Leu	Thr	Leu	Gln	Asp	Ala	Gly	Glu	Tyr	95	100	105
Trp	Cys	Gly	Val	Glu	Lys	Arg	Gly	Pro	Asp	Glu	Ser	Leu	Leu	Ile	110	115	120
Ser	Leu	Phe	Val	Phe	Pro	Gly	Pro	Cys	Cys	Pro	Pro	Ser	Pro	Ser	125	130	135
Pro	Thr	Phe	Gln	Pro	Leu	Ala	Thr	Thr	Arg	Leu	Gln	Pro	Lys	Ala	140	145	150
Lys	Ala	Gln	Gln	Thr	Gln	Pro	Pro	Gly	Leu	Thr	Ser	Pro	Gly	Leu	155	160	165
Tyr	Pro	Ala	Ala	Thr	Thr	Ala	Lys	Gln	Gly	Lys	Thr	Gly	Ala	Glu	170	175	180
Ala	Pro	Pro	Leu	Pro	Gly	Thr	Ser	Gln	Tyr	Gly	His	Glu	Arg	Thr	185	190	195
Ser	Gln	Tyr	Thr	Gly	Thr	Ser	Pro	His	Pro	Ala	Thr	Ser	Pro	Pro	200	205	210
Ala	Gly	Ser	Ser	Arg	Pro	Pro	Met	Gln	Leu	Asp	Ser	Thr	Ser	Ala	215	220	225
Glu	Asp	Thr	Ser	Pro	Ala	Leu	Ser	Ser	Gly	Ser	Ser	Lys	Pro	Arg	230	235	240
Val	Ser	Ile	Pro	Met	Val	Arg	Ile	Leu	Ala	Pro	Val	Leu	Val	Leu	245	250	255
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Arg	Asn	Glu	Lys	Phe	Trp	Leu	Ser	Arg	Leu	Thr	Ala	Glu	Glu	Lys	290	295	300
Glu	Ala	Pro	Ser	Gln	Ala	Pro	Glu	Gly	Asp	Val	Ile	Ser	Met	Pro	305	310	315
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